THE OIL WEEKLY

OIL & GAS ENGINEERING

15c

News

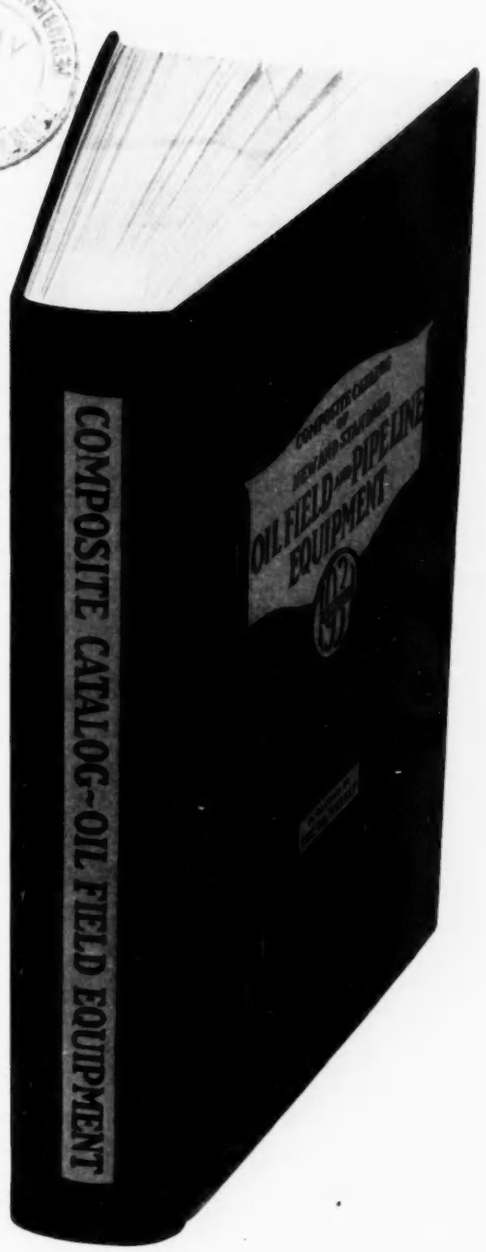
SPECIALIZED TO OIL AND GAS PRODUCTION
AND PIPE LINE DIVISIONS

Statistics

APRIL 18, 1932
OLUME 65 NUMBER 5

The

1932 COMPOSITE CATALOG...



Manufacturers, desiring to keep information on their equipment on the desks of the key men of the oil industry—the men charged with the selection and use of their equipment—all have a vital interest in the 1932 Composite Catalog of Oil Field and Pipe Line Equipment, on which work is now underway.

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THE GULF PUBLISHING COMPANY

Composite Catalog Department

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IN the field of *transportation* nothing indicates progress more clearly than the time required for a message to travel from New York to Boston? In 1789, by coach, *7 days;* in 1932, by air mail, *2 hours.*

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10
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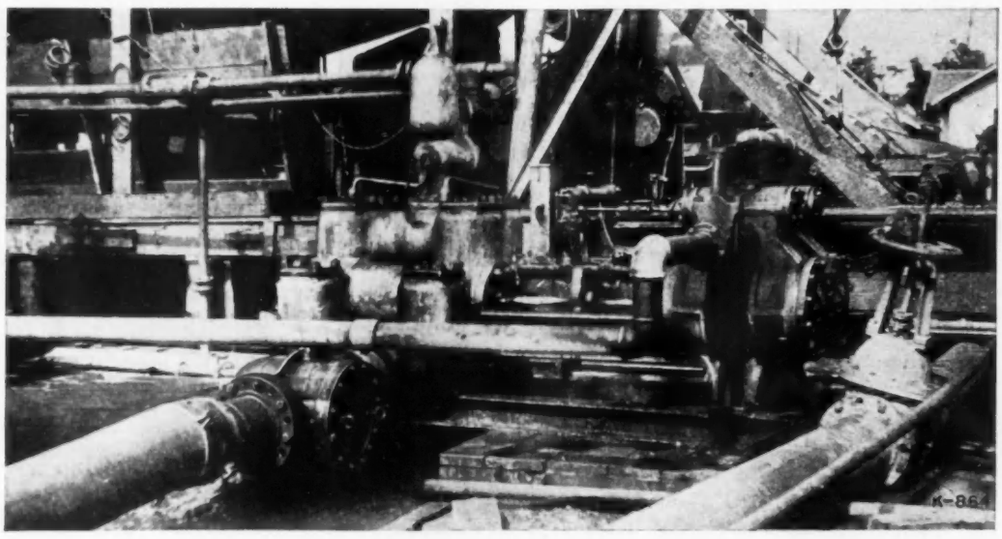

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1 Cross your fingers like this. Feel the internal stress in your finger muscles.

This illustrates how strands and wires of ordinary (non-preformed) wire rope are subjected to a constant internal fatigue . . . because they are forced to hold their helical shapes.

2 Now move your middle finger. Note the rubbing action . . . demonstrating how, in ordinary wire rope, the ever existing straightening-out effort of the strands and wires causes excessive internal friction.

3 Let your fingers snap apart. Note how your fingers spread apart when you let them snap, as illustrated above. Strands and wires of ordinary (non-preformed) wire rope do the same when internal stress is released by removal of seizing.

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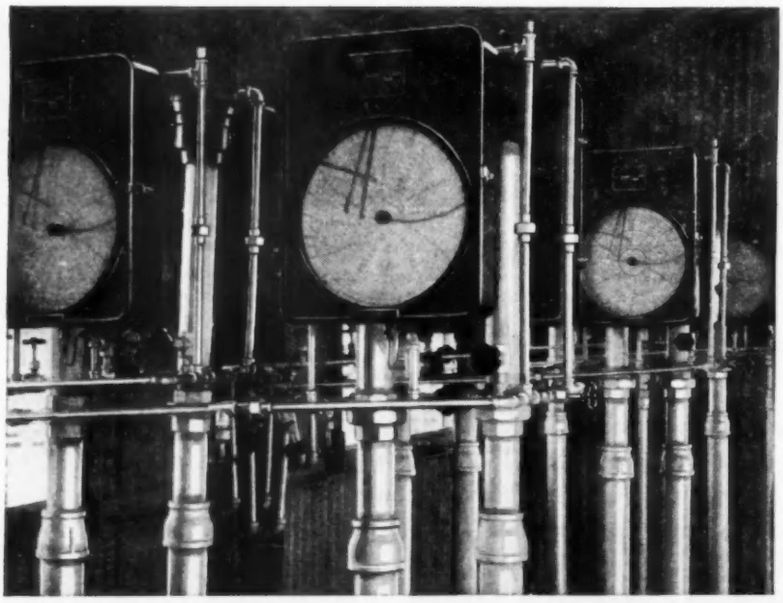
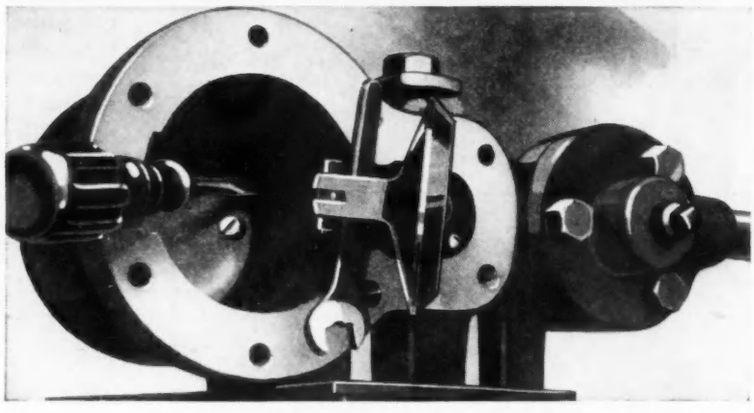


ACCESSIBLE

All parts exposed by removing the cover forgings



Removing the cover forgings of the Westcott Orifice Meter makes every part accessible for inspection, cleaning and repair.

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THE OIL WEEKLY

April 18, 1932
Vol. 65, No. 5

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Published Weekly by
THE GULF PUBLISHING COMPANY
HOUSTON, TEXAS

S. W. ROBINSON
Editor

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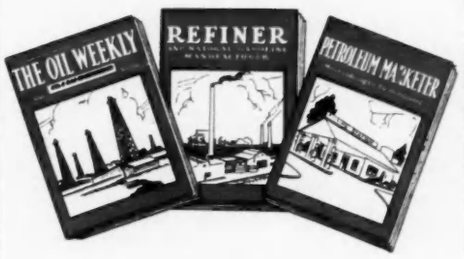

SPECIALIZED OIL JOURNALS

Published by

THE GULF PUBLISHING COMPANY

R. L. DUDLEY, *President*
A. L. BURNS, *Gen'l Manager*
S. W. ROBINSON, *Editorial Director*
J. KENT RIDLEY, *Managing Editor*

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CHICAGO: Room 810, 624 Michigan Avenue, O. R. Waller, Manager.

LOS ANGELES: 416-417 Haas Building, W. E. Green, Manager.

TULSA: 913-916 Hunt Building, J. F. Carter, Jr., Manager.

FORT WORTH: 203 W. T. Waggoner Building, H. H. King, Manager.

Issued Monday of each week. Single copies 15 cents. Subscription price: Domestic $1.00 a year, Foreign $1.00 a year. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879. Subscription restricted to those engaged in the producing and pipe line branches of the oil business or the manufacture and distribution of oil field supplies. Advertising rates on application.

Transportation

To appreciate the importance of motor trucks in our industrial life, imagine for a moment that by some stroke of an evil genius they have been removed from the streets of the nation. Roads jammed with slow, horse-drawn vehicles . . . small loads . . . reduced operating radius . . . millions lost every year.

•

The nation depends on motor trucks. These powerful, mobile, flexible, tools of distribution penetrate into every nook and corner maintaining the flow of city and country products alike. They bind the smallest hamlet and the largest metropolis into ever-increasing dependence on one another.

The fuel that made motor trucks possible is gasoline.

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Truly then, gasoline is the precious fluid of industry. Obviously, such a precious fluid needs to be conserved . . . and Halliburton, through its oil well cementing developments, is glad to be contributing in no small measure to this conservation . . . Halliburton Oil Well Cementing Co., Duncan, Okla.

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APR 18 1932

VOLUME 65, No. 5 APRIL 18, 1932

THE OIL WEEKLY

SPECIALIZED TO OIL AND GAS PRODUCTION
AND PIPE LINE DIVISIONS

ENGINEERING • NEWS • STATISTICS

The Changing Panorama

California Skies Not Grey

A three weeks visit in California by the publisher of The Oil Weekly reveals that California oil company executives have a wholesome respect for the curtailment work done by operators in the Mid-Continent. At the same time it revealed that despite over-production in certain fields of California, some of the higher executives in California are more optimistic than their brethren of the rest of the United States would suspect.

Some of them point out that while California has more than her share of oil stocks above ground, in many instances these stocks are heavy oil which is certainly not desirable for refining purposes with the price of gasoline at its present point in California. One executive went so far as to say that only one company in California has a comfortable amount of desirable light oil in stock. While there would be some to disagree with him, the fact remains that some of the majors in California have a considerable amount of empty storage.

It's an old story that when a person goes on a drunk, a bad head results. Unfortunately in the case of the recent congressional spree, it doesn't seem to be the heads of those having the spree that are suffering! The pipe line bill, passed by an uproarous lower house at Washington, to soak the "highbinding" (quotes not ours) pipe line companies, will change the panorama indeed. If it sticks, water shipments, not being under the tax, may cause considerable shifting in markets. On page 13 you are taken into congress and permitted to hear our representatives discuss the bill.

No Dutch uncle could talk more forcefully than has the California Umpire to the oil producers in his state after a trip East. To say that he is disappointed over the way producers out there have been cooperating with the rest of the industry in controlling supply, is putting it mildly. He even intimates that all the Native Sons are not brothers. Page 15.

Paraffin has been described by lexicographers as inert, proving that the said word mongers were inspired as of a vision, even if they had not the advantage of meeting the substance in its native habitat. And in addition to Carl Estes and threats of "riot and insurrection" East Texas needs must be inflicted with paraffin. How to handle this problem

National guardsmen in East Texas, Arab chieftans and their followers in Iraq! This week we present the picture of an Arab policeman, serving as guard at the Iraq Petroleum camp, Iraq. You probably could reach him with an address something like this: "Hassen el Sirab, care Iraq Petroleum Company, Tuz Khurmatu, Iraq, via Bagdad."

comes almost in the category of the common cold, but steps have been taken to relieve the situation, although it is popularly conceded that it cannot be cured. At least it has been found out that with this particular oil the wax collects and deposits with the evaporation of light fractions. Minimizing of the trouble is obtained by restricting exposure of the crude to evaporation. In the wells, periodic flow and rapid recovery of the day's allowance tends to keep the tubing and flow lines free of wax.

Page 34

When Is Too Much Not Enough?

"Potential" scared the oil industry into a tail-spin at a time when it might have kept flying high in spite of the world depression. At least if steel demand had fallen in proportion with oil last year, that industry would be happy. And now that petroleum's house in in a measure in better order, is this potential we talk of too big? Was the finding of the big reserve in East Texas really the menace it proved, or was it needed to insure future supply? Progressive rate of consumption requires that in the United States there must be uncovered yearly an underground reserve of one billion barrels. Lagging in such finds means that East Texas' two billion barrels (or a million and a half or what have you) only extends the industry in the United States another two years beyond the 10 or 12 years it has in sight.

Page 16

These Changing Times

NEW DRESS . . .

YOU GET IT THE FIRST OF THE WEEK

All the preceding week's news—right up to the close of the week—not a part of this week and a part of last week's news, but the sum total, that's what you get in THE OIL WEEKLY now. Dead week end time is now utilized for the "traveling time" of THE OIL WEEKLY in the mails, so you get your OIL WEEKLY as you begin a new week. The new publication date, and new delivery date (Monday) is proving a popular move.

SNAPPY, CONCISE, READABLE, DEPENDABLE

OIL WEEKLY editors appreciate the fact that OIL WEEKLY readers are busy men. "Give all the interesting facts—then stop" are the instructions to OIL WEEKLY writers. "Don't be afraid of facts. The industry needs them." You'll find this policy reflected each week in the news of the week.

THE BEST IN THE TECHNICAL FIELD

OIL WEEKLY editors, too, are watching the changing scene in the technical field. Engineering articles do not appear in THE OIL WEEKLY just because somebody happens to submit them to the editor. What the industry is doing, what it is thinking, is the editorial yardstick. This week's issue enables us to assist in throwing the light on some of the most important technical subjects the oil industry is thinking about.

THE EDITORIAL PLEDGE

THE OIL WEEKLY built its circulation among production and pipe line men (*more than enjoyed by any other oil journal*) on an appreciation of the changing times. It knows that today, more than ever before, the ideas of the oil industry represent one vast, changing panorama. To keep pace with the times, if possible a jump ahead of them, is our obligation and our pledge.

They are taking the bull by the horns in studying out the future pumping requirements of the East Texas field. "Bull" might be either metaphor or slang. The history of the field so far has been a continuous postponement of the day when pumping will be general in the area, but it is conceded that eventually the conserved reservoir pressure will be exhausted. And against that time, far-seeing operators have engineers laying plans for what probably will be the greatest pumping campaign ever concentrated in one area. In attempting to forecast when general pumping will be required, the calculators have their figures upset by several artificial factors involved. Page 40

Flow More Than Pump

Tapered tubing simply applies a well known law of physics to the flowing of oil wells. The fact that it may put off the pumping date in East Texas shouldn't really be held against it by operators elsewhere! This week we are pleased to present some very interesting data on the experience with tapered tubing in two sections of the United States. That a well can be made to flow more than it will pump after it has reached "the pumping stage," sounds funny, but such a case is reported from one section where experiments with tapered tubing were initiated about the time Seminole was having such a round with the gas lift.

Page 31

Proposed Oil Taxes Vigorously Attacked *Before* Finance Body

By CLARENCE L. LINZ
Washington Representative

WASHINGTON, D. C., APRIL 15

WITH the appearance before it today of representatives of the oil industry and eastern industry, the Senate Finance Committee began its consideration of the oil taxes in the pending Revenue Bill, one of the most bitterly controversial questions in the entire measure.

Injecting oil into his appeal for collection of tariff duties on commodities from depreciated-currency countries on the basis of the normal values of those currencies, M. J. Flynn, representing America's Wage Earners Protective Conference, asked not only the retention by the Senate of the excise tax on imported oil, but an increase in the rate to two and one-half cents per gallon, with a view to equalizing the costs of production here and abroad.

The advantage held by imported oil, which can be laid down on the Atlantic seaboard much cheaper than can domestic oil, Flynn declared, has resulted in the unemployment of many thousands of oil field employes.

Appearing as a representative of the American Petroleum Institute, C. B. Ames of the Texas Company, opposed the pipeline and lubricating oil taxes of the House revenue bill, as well as any effort to impose a tax on the consumption of gasoline, proposed by the Treasury Department from which it was estimated, at a rate of one cent per gallon, a revenue of $165,000,000 could be secured.

The petroleum industry, Ames asserted, is already "burdened by excessive taxation." Practically all of the producing companies last year lost money, although, he admitted, some of those owning pipeline facilities made money from that branch of their business. To support his contention, he cited the various taxes imposed by Texas, the oil industry, he claimed, paying 56.8 per cent of the state's entire tax revenue.

"The impression seems to prevail," he told the committee, "that the oil industry was prosperous, with additional taxes immaterial. We are losing money instead of making it."

Taxes on Capital

Any new taxes, he declared, would in effect, be taxes on capital.

Opposing any attempt to incorporate a gasoline tax in the revenue bill, Ames told the commitee that this tax has always been considered primarily a source of state revenue and that it has already been imposed in many states at rates which since the onset of depression have resulted in reducing consumption. Rates range as high as seven cents in two states, he explained, with an average for the country of more than four cents, while in 1931 the average refinery price for gasoline in the Mid-Continent field was less than four cents.

The proposed tax on lubricating oil, in the opinion of the Institute, will place the government in the position of imposing a burden on industries, such as the railroads, which, through other agencies, among them the Reconstruction Finance Corporation, it is trying to aid. Many industries are heavy users of lubricating oil and buy it at prices which make the tax as high as 40 to 50 per cent.

Also Opposed to Pipe Line Tax

The institute is also committed to a policy of opposition with respect to the House proposal for an eight per cent tax on pipe line transportation charges. Foreign oil, Ames told the committee, can be shipped into the United States by water at less than the pipe line charges from the Mid-Continent field and, in addition, would save the 7¾ cents per barrel tax which would apply on oil to the Atlantic Coast. Most of this oil, he added, is shipped from Texas, Oklahoma and Kansas, with some from California, and those states would bear the bulk of the burden.

In this connection, Ames called the committee's attention to the rate of 15 per cent provided on the income of corporations filing consolidated returned. Prior to 1906 the pipe lines were owned

Jersey and Indiana Standards To Swap Supplies *If Tariff Enacted*

NEW YORK, APRIL 15

A FIRST rumbling of the changes which may follow final adoption of a tariff on imported oils was heard last week when it became known in New York that discussions are under way between officials of Standard Oil Company of New Jersey, and Standard Oil Company (Indiana). These discussions are said to be predicated on the assumption that one tariff measure or another may finally be enacted, and officials of the various companies affected are engaged upon examination of the situation which will result.

The proposition now under investigation contemplates an exchange of supplies by the two companies above mentioned. It is said that, if it comes to fruition, the eastern marketing outlets of Pan-American Petroleum and Transport Company, a subsidiary of Standard Oil Company, (Indiana), will be supplied with oils produced, purchased, and, perhaps, refined by subsidiaries of Standard Oil Company of New Jersey. In exchange, certain foreign marketing branches of Standard Oil Company of New Jersey will be supplied with oils produced and, perhaps, also refined by Pan-American Petroleum and Transport Company, in Venezuela and Aruba, Dutch West Indies.

In anticipation of such legislation, Pan-American Petroleum & Transport Company has recently been engaged upon a program of expansion in European markets.

Officials of Royal Dutch-Shell subsidiaries, including Sir Henry Deterding, have stated from time to time that the enactment of tariff legislation in the United States would cause only a shift in transport arrangements insofar as Shell activities are concerned, that oils produced by Shell subsidiaries on the Pacific and Gulf coasts would simply be substituted for oils of South American origin now being sold along the Atlantic seaboard; and that American oils moving into export trade would be supplanted in foreign markets by oils produced in Venezuela and elsewhere, outside the United States.

chiefly by producing or refining companies. These owners were required by an act of congress to disassociate their transportation activities from their other business and formed separate organizations to operate the pipe line. However, he pointed out, many of the companies include the pipe line figures in a single income return for all their activities and, under the proposal in the House bill, would be penalized 1.5 per cent for so doing.

As an alternative to the several taxes affecting the oil industry, Ames proposed a manufacturers' tax of one per cent applicable to all commodities. Estimating that the total production of all commodities in the United States last year was fifty billion dollars, Ames pointed out that a one per cent tax would give a revenue of five hundred millions, of which the refiners would pay one hundred fifty to two hundred millions. With a rate of only one per cent, he contended, the tax would not be passed along to the public.

The proposed taxes on oil imports will raise no revenue but will cost the country $305,000,000 in increased prices, the committee was told by Senator Tydings of Maryland. Of this sum $8,400,000 will be borne by the government, the largest single consumer of oil in the United States.

Declaring that the tariff was injected into the bill after being excluded by the Ways and Means Committee, Senator Tydings asserted that the tax on oil amounted to 70 per cent of its value while the tax on gasoline amounts to about 25 per cent. The tax was incorporated in the bill, he charged, through a "trade" with proponents of the sales tax, whereby each group supported the other.

He told the committee that the tax is unnecessary, declaring that the oil industry is the only one in the country which "is on the up-grade." Prices, he charged, have already been advanced on the strength of the inclusion of the tax in the House bill.

A table showing that the House rates on oil imports would raise $43,000,000 was submitted to the committee by Senator Gore of Oklahoma, after Senator Tydings declared that the Treasury estimated that no revenue would be derived from these levies.

Senator Tydings was joined in his opposition to the tax by representative Nelson of Maine, who asserted that the imports tax was not intended to raise revenue and therefore has no place in the tax bill.

Imports, Nelson declared, are "insignificant," especially when compared with exports, and do not affect the activities of the large companies, while the proposed taxes would affect the entire east, increasing the cost of oil on the Atlantic Coast by 70 per cent.

Owners of flowing wells made money last year, he told the committee. He pointed out that the great majority of the wells of the country are small producers and that most of them are pumping, and recommended that the pumping wells in Pennsylvania, New York and West Virginia be closed down and production left to the flowing wells, the public to be given the benefit of the lower costs of production. However, he admitted in response to questions from the committee, he could not suggest how the closing of these wells was to be brought about.

Representatives of various eastern industries presented briefs to the committee showing how they would be adversely affected by the proposed tax on imports. The textile industry, especially, it was claimed, would be a heavy sufferer, being in very dire straits," with mills being closed down or abandoned, the tax on a large plant would be $100,000 a year, it was asserted.

A production tax of 10 cents per barrel on all crude produced in the United States and a similar tax on all imported oil was recommended as a substitute for the one-cent tax on imports by William C. McTarnahan, president of Petroleum Heat & Power Company, New York. This, he said, would bring in one hundred million dollars a year and would relieve eastern industries of the burden which would be experienced under the House bill from which, he asserted, the government will get little or no revenue. Appearing in behalf of the Independent Petroleum Producers, Wirt Franklin urged the committee to back up the House proposal for a tax on imported oil as offering the independents their only opportunity for rehabilitation. The taxes carried in the House bill, he asserted, will provide many times the revenue estimated by the Department of Commerce. Forty million dollars or more could be secured from the tax, on which the treasury itself made no estimates, accepting the figures of the commerce department.

Pointing to the investigations of the United States Tariff Commission, which showed a large margin between domestic and foreign oil laid down at Atlantic Coast refineries, Franklin explained that the House taxes are proposed to equalize that difference in part and throw the money into the federal treasury. Prices, he said, will not go above normal levels as a result of the tax.

East Texas Well Allowable Cut To 67 Barrels *Effective April 16*

HOUSTON, TEXAS, APRIL 15, 1932

A FOUR-BARREL cut in the daily allowable production of wells in the East Texas field was put into effect 7 a.m., April 16, by orders of the Texas Railroad Commission and the military authorities, thereby placing all wells on a flat quota of 67 barrels daily. Assuming that all of the 4900-odd completed wells in the field are capable of making their maximum allowance, the aggregate would be 328,300 barrels daily, or slightly above the tentative limit allotted the area under the state-wide proration program. Approximately 60 wells are off production each day for various causes, and about 30 additional wells are not producing the maximum daily output because of inability to do so, or through defective equipment in use.

Official action on the reduced East Texas well allowable was taken here Friday when the Railroad Commission gathered to take testimony on why proration rules should not apply to Gulf Coastal fields. Previous reports given wide circulation at the first of the week that the East Texas well allowable would be cut to 67 barrels effective April 13, resulted from a misunderstanding between the Railroad Commission and officials of the Oil and Gas Division, which is empowered to enforce commission rulings.

Rapid increase in total producing wells in the field necessitated a greater cut in the well allowable April 16, as compared to April 1 when the proration authorities cut only one barrel below the 72-barrel quota adopted during the March 16-31 period. Recent advance of crude price

(*Continued on page 62*)

California Curtailment Facing *Total* Breakdown Says Umpire

LOS ANGELES, APRIL 12

OIL curtailment in California is threatened with a complete breakdown owing to developments within the past two weeks and every effort is being put forth by curtailment officials to bring all operators back into line and hold production down to the maximum figures set by the General Committee.

Dominguez, Long Beach, Santa Fe Springs and Playa del Rey fields in the Los Angeles Basin are the disturbing factors.

The text of a message sent to all oil producing companies in California yesterday by Oil Umpire Neal H. Anderson was: "Either make an honest effort at curtailment, or face the consequences of a complete breakdown of the industry in California."

Drastic Step Needed

In his communication to the producers Mr. Anderson reviewed present day conditions throughout the state and pointed out that drastic steps must be taken at once if complete demoralization is to be averted. He stated in part:

"The oil industry in California is in the hands of the producers and if they wish to wreck it, it is certainly within their power. The umpire's office has done all that it could to prevent it, and the umpire is tired and disgusted with the actions and pitiful attempts and gestures that have been made by many companies pretending to curtail their production and play the game as men would play it.

Forcing Wells Must Stop

"Peak flush production at Santa Fe Springs, Long Beach and Playa del Rey fields is over. These fields have been rapidly declining for the past six months and in this decline of production we find operators who have been forcing wells to capacity, selling here and there, paying no attention to the curtailment program, disregarding the offset conditions, drainage, and competitive production in town lot sections, disregarding any agreement that they might have had with their fellow operators, and, in fact, inviting disaster to themselves and to all their friends and employees. These men today have exhausted their resources, exhausted their properties, exhausted themselves as well as the industry, and what have they accomplished—nothing.

"During the last two or three months some of the fields have been failing miserably in their performances, and I have to admit as umpire, that I have not the power to go into these fields and adjust the production properly among the operators, under the voluntary plan of curtailment, if I do not have the entire co-operation of the operators themselves.

Headed Toward State Enforcement

"The industry today is headed straight towards drastic state enforcement of curtailment. If the financial structure of the oil business should collapse, it would wreck the financial structure of the state, unless the governor took immediate steps to halt it.

"Conditions in Oklahoma and Texas a short time ago were in a more chaotic state than they have ever been in California. Martial law and governmental control has restored confidence to the operators and stabilized a tottering industry and today the oil business in those states is in a healthier condition than at any time in the past four years.

"I am not saying that we need state control in California. If it were possible for the operators as a whole to get together and honestly work out their problems the situation could be quickly righted. Today, it seems that this cannot be done, and instead of the position of the industry being strengthened and the operators working for improvement, the industry is becoming more weakened and diseased each month.

"The other oil producing states of the nation at this time are under full curtailment and are beginning to feel a beneficial effect in the rehabilitation of their industry. In our own state of California why should we stand by and see our industry wrecked for lack of co-operation?"

Marketing Code *is* Cited *in* *Specific* Charges of Allred

AUSTIN, TEXAS, APRIL 15

SPECIFIC charges by which the State of Texas will seek to cancel the charters of 17 integrated oil companies involve workings of the National Code of Practices for the Marketing of Refined Petroleum Products. James V. Allred, attorney general, brought this out in his amended petition, which has been prepared to meet the special exemptions of defendants raised in preliminary proceedings since the trial started.

Instances have been cited to show that representatives of leading marketing companies in Texas formed a conspiracy to control the retailing of petrolem products through this code of ethics. It charges that the defendants, knowing they could not agree among themselves to follow rules of the code because of Texas anti-trust statutes, followed the plan of each company individually by subscribing to the code but kept its covenants as was done in other states, submitting complaints to a central code committee and rectifying violations of the code.

Defendants are charged with conducting a campaign to acquire service stations, to control market outlet of products, to fix prices through open postings. It is alleged that parent companies through Texas subsidiaries shared in the benefits of these methods of violation of the Texas statutes.

The amended petition contains 198 pages of allegations and 70 pages of exhibits. It gives a list of service stations acquired as well as 50 complaints filed with the central code committee.

The taking of testimony in the case will begin May 2 before a special commissioner, named by Judge J. D. Moore. Officials of The Texas Company will be questioned first.

Texas Commission to Hold Line Rate Hearing

Austin, Texas. — Rumors from authentic sources indicate that the Texas Railroad Commission may be forced to hold a hearing on pipe line rates at some time in the near future.

Members of one independent group have petitioned twice for such a hearing, but in each case their request has been withdrawn shortly before the hearing date.

For some reason, unannounced, the commission has consistently avoided action on this matter, although in the law declaring pipe lines common carriers, they were ordered to evaluate the lines and specify transportation charges.

Who Said *There Is* Too Much Oil *In Sight,* Anyway?

A glance at reserves and some prognostications on what is needed shows that new supply must be found

H. J. STRUTH
Staff Economist

IS the oil indstry in business to stay—or is it to be regarded as a temporary venture?

How long an individual oil company, or the industry as a whole, will remain in business depends primarily upon available sources of immediate and future supply. If exhaustive search were to reveal, right now, that the bulk of recoverable oil reserves in the United States had already been found, and that chances were slim for uncovering further reserves in the future, the industry would be obliged to begin liquidation in anticipation of quitting the business entirely within the next 10 to 12 years.

We are told by those whose opinions are accepted as authoritative that our present *known* recoverable oil reserves amount to about 10,000,000,000 barrels. Of that alleged large supply, we found an estimated 2,000,000,000 barrels in East Texas, 1,500,000,000 barrels in Kettleman Hills and 300,000,000 barrels in Oklahoma City, all since 1928. In fact, since 1928, our recoverable oil reserves have been increased in extent by a total of 5,152,000,000 barrels, consisting of new fields brought in for development. Yet, since 1928, we have withdrawn from all U. S. underground reserves a total of 3,656,000,000 barrels of oil to supply actual and fancied needs. Therefore, we are only 1,496,000,000 barrels better off, from a reserve standpoint, than we were in 1928, and that in face of an increasing demand.

Throughout the history of the oil industry, since the discovery of oil in 1859, there have been periods of feast and famine. Only a few years ago, predictions were made that the United States would have to depend more and more upon foreign sources of oil supply, as our own reserves were being rapidly depleted. At that time, as now, prices were at a low ebb and the incentive to prospect for new sources of supply was lacking. Yet, when prices turned upward, the wildcatter found plentiful new supplies of oil and quickly turned the tide from one of famine to over-abundance. With all of this, however, the facts at hand offer little cause for belief that the industry has ever, at any time, had too much oil in sight. But, the facts do show that the industry has, all too often, produced oil considerably in advance of market requirements and immeasurably shortened the flowing life of prematurely developed reserves.

Every thinking oil man will concede that a 10 to 12 year's supply of recoverable oil is not over-abundant. Of course, if the industry attempts to produce in one year what would normally constitute two year's market requirements, the inevitable result that followed the bringing in of East Texas can only be expected. However, to say that present underground reserves are an economic menace and are solely responsible for past and present low prices, is to place the industry in a decidedly temporary category. What difference does it make how much oil is underground? For all we know, there is probably sufficient oil undiscovered to last another 100 years; perhaps another 200 years. Who knows? Certainly the industry hopes that it is an adequate supply, or we face liquidation. Is it logical, therefore, to say that the underground reserve is an invisible inventory that has a direct effect upon the price of oil? If we try to produce all of it as quickly as possible, it becomes an inventory and a direct detriment to the market; that is a well-known function of economic laws.

Reserves Plotted

The accompanying chart offers a picture of the extent of present and past underground oil reserves, showing the extent to which they have been built up and drawn upon since 1918. An attempt is also made therein to project the probable course of needed withdrawals from reserves and the extent to which they must be built up to maintain reserves in ratio with normal depletion.

The solid areas, from 1918 to 1931, inclusive, indicate the approximate volume of recoverable oil added to reserves each year.

The ribbed area projects how much new oil reserve must be added to maintain a 12-year's supply in ratio to indicated future requirements. It will be noted that the years 1928 and 1930 were unusually productive of new sources of supply, availing an addition to reserves of more than 2,000,000,000 barrels in each period. Yet, the years 1929 and 1931 brought forth comparatively small discoveries, offsetting the effect of multiple finds in the alternate years. If present reserves constitute a volume of recoverable oil supply of 10,200,000,000 barrels, as indicated on the chart, it is apparent that the depletion in 1931 must have amounted to about 378,-

TABLE 1
Reserves Necessary to Maintain Required Production

Actual	Recoverable Oil Reserves in Sight 1st of Year	New Supply Found	U. S. Production	Total Demand (U. S. Crude)	Above-Ground Storage
1928	7,704,000,000	2,268,000,000	901,000,000	882,000,000	492,000,000
1929	9,071,000,000	135,000,000	1,007,000,000	958,000,000	541,000,000
1930	9,199,000,000	2,277,000,000	898,000,000	921,000,000	512,000,000
1931	10,578,000,000	472,000,000	850,000,000	897,000,000	{ 465,000,000 { (a) 371,230,000
Projected	**Recoverable Oil Reserves Necessary**	**New Supply Needed**	**Normal Production Requirements**	**Probable Demand**	**Economic Above-Ground Stocks**
1932	*10,200,000,000	1,330,000,000	830,000,000	860,000,000	341,230,000
1933	10,700,000,000	1,155,000,000	855,000,000	885,000,000	311,230,000
1934	11,000,000,000	1,282,000,000	882,000,000	912,000,000	281,230,000
1935	11,400,000,000	1,210,000,000	910,000,000	940,000,000	251,230,000
1936	11,700,000,000	1,338,000,000	938,000,000	968,000,000	221,230,000
1937	12,100,000,000	1,338,000,000	970,000,000	1,000,000,000	191,230,000
1938	12,468,000,000	.....	.....	.....	.....

(a) Revised, account transfer of fuel oil to refined oil stocks.
*Estimated as actually in sight first of year.

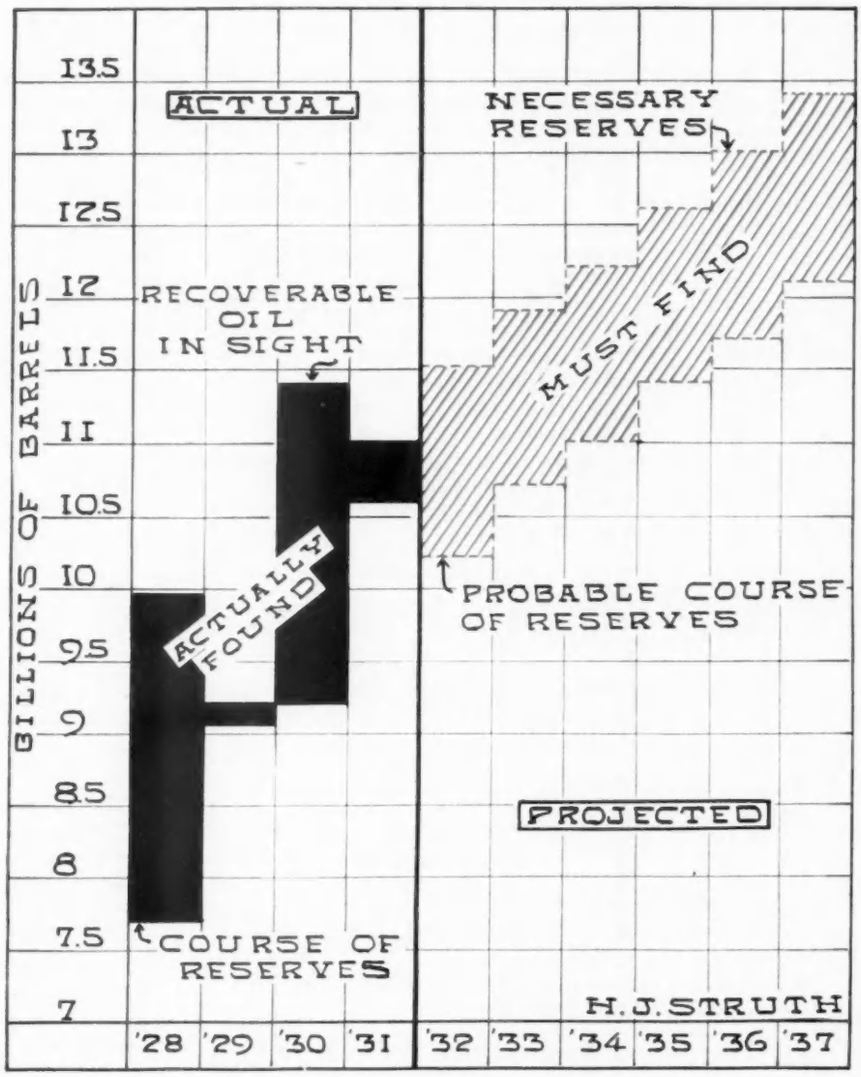
000,000 barrels, representing the difference between the withdrawal of 850,000,000 barrels and the addition of 472,000,000 barrels through new discoveries. If it is essential for the industry to maintain an underground reserve sufficient to last from 10 to 12 years, and production this year aggregates 830,000,000 barrels, it follows that next year's total reserve figure would have to attain a total of 10,700,000,000 barrels. This indicates that the industry must find about 1,330,000,000 barrels of new reserve supply this year. Thus far, practically no important sources of new supply have been found.

Must Find Billion Barrels a Year

Projection of the probable course of reserves and withdrawals points to a definite need for finding slightly more than a billion barrels of new oil reserves each year. Unless new fields are added to present reserves, current rates of withdrawal cannot be maintained for more than a few years, while the supply would perhaps become utterly depleted at the end of 12 years. Obviously, unless new sources of supply are added each year, to the extent indicated, present and future withdrawals will result in a rapid decline in pressures that will quickly turn abundance into dire famine.

The East Texas area has already demonstrated how rapidly pressures may decline under competitive development and withdrawal. It is not difficult to visualize what may soon happen if it becomes necessary to increase withdrawals through lack of additional sources of supply to furnish growing market requirements. It is not difficult to foresee even a lack of adequate production to satisfy the demand, if no additional sources of underground reserve are discovered.

How long would the industry be able to withdraw between 830,000,000 and 900,000,000 barrels of oil a year, from a known reserve of only 10,200,000,000 barrels? This is something to think about!



OIL RESERVES FOUND SINCE 1928 AND PROBABLE FUTURE REQUIREMENTS NECESSARY TO MEET WITHDRAWALS

Solid area denotes quantity of recoverable oil found in new fields each year from 1928 to 1931, inclusive. Ribbed area projects probable requirements for additional reserve supply to maintain probable future withdrawals.

What the Table Shows

The accompanying table presents some interesting figures on the oil reserves of the United States and offers a look ahead with regard to probable productive requirements, market demand and economic course of above-ground stocks. If the industry intends to continue to reduce excessive above-ground supplies of crude, it will be necessary to draw on stocks to the extent of about 30,000,000 barrels a year, at least until 1935. At that rate of stock withdrawal, the industry will have reached a state of normalcy in inventory at the beginning of 1936. Such procedure would call for an annual rate of production of from 830,000,000 barrels in 1932 to 910,000,000 barrels in 1935. By 1937, demand for American crude will probably have passed a billion barrels a year. When demand reaches the billion-barrel mark, it will be necessary to have in reserve a recoverable oil supply of at least 12,000,000,000 barrels. In order to maintain reserves in the ratio shown in Table 1, it will be necessary to find each year, a supply equivalent to an ultimate recovery of more than a billion barrels.

New Reserves Were Needed

At the rate of production attained in 1929, the industry's recoverable reserves would not have lasted more than nine years, and perhaps would have resulted in a sharp slump in production long before 1938. It is apparent, therefore, that the bringing in of East Texas in 1930 was actually necessary in the light of small finds in the preceding year and prospective requirements in future years. Thus, while above-ground stocks rose sharply in 1929, and brought about the subsequent siege of depression, reserves were being depleted at an excessive rate and would have reached an adequate stage had it not been for the discovery of East Texas. There was really nothing wrong about bringing in a reserve of 2,000,000,000 barrels with the finding of East Texas; the only thing wrong was the uneconomic method by which it was prematurely developed.

Estimates of recoverable oil in newly found productive areas of the United States vary considerably. Yet, an average of various expert opinions offers a reasonable expectancy upon which to calculate the ultimate recovery of oil from a new pool. Table 2 presents the highlights

TABLE 2

New Fields Discovered and Developed Since 1928, with estimates of Probable Ultimate Recovery.

1928—Ultimate Yield of New Fields—2,268,000,000 Barrels

	Probable Recovery
Kettleman Hills, California	1,500,000,000
Playa del Rey, California	50,000,000
Elwood, California	100,000,000
Oklahoma City, Oklahoma	300,000,000
Salt Flat, Texas	38,000,000
Refugio, Texas	40,000,000
Sedgwick County, Kansas	100,000,000
Allen Pool, Oklahoma	35,000,000
Fruitvale, California	10,000,000
Bakersfield, California	15,000,000
Lawndale, California	5,000,000
Miscellaneous pools of South Central Texas	2,200,000
Branyon	
Eckert	
Larremore	
Ottine	
Yoast	
Cuellar, Zapata County, Texas	5,000,000
Government Wells, Duval, County, Texas	6,000,000
Sorrento, Louisiana Gulf Coast	5,000,000
Hackberry, Louisiana Gulf Coast	5,000,000
Bayou Bouillon, Louisiana Gulf Coast	2,000,000
Sugarland, Texas Gulf Coast	40,000,000
Other Texas Gulf Coast Fields	10,500,000
Clay Creek	
Fannett	
Rockland	

1929—Ultimate Yield of New Fields—135,000,000 Barrels

	Probable Recovery
Darst Creek, Texas	40,000,000
Zwolle, Louisiana	15,000,000
Hankamer, Texas Gulf Coast	10,000,000
Lost Lake, Texas Gulf Coast	5,000,000
Port Neches, Texas Gulf Coast	15,000,000
Esperson Dome, Texas Gulf Coast	5,000,000
Mykawa, Texas Gulf Coast	3,000,000
South Central Texas discoveries	1,000,000
Buchanon	
Manford	
South Texas discoveries	2,500,000
Driscoll	
Roma	
Black Bayou, Louisiana Gulf Coast	10,000,000
Lake Barre, Louisiana Gulf Coast	10,000,000
Port Barre, Louisiana Gulf Coast	10,000,000
Other discoveries in Louisiana Gulf Coast	9,000,000
Dog Lake	
Bayou Blue	
Lake Pelto	

1930—Ultimate Yield of New Fields—2,277,000,000 Barrels

	Probable Recovery
East Texas	2,000,000,000
Van Zandt County, Texas	214,000,000
Saxet, Texas	20,000,000
Pettus, Texas	15,000,000
Escobas, Texas	5,000,000
Chapman, Texas	7,000,000
Miscellaneous Texas discoveries	4,600,000
Aqua Dulce	
S. R. C.	
White Point	
Cooksey	
Caillou Island, Louisiana	2,000,000
Moss Bluff, Texas Gulf Coast	5,000,000
Cartersville, Louisiana	3,000,000
Holly, Louisiana	1,000,000

1931—Ultimate Yield of New Field—471,500,000 Barrels

(Details Incomplete, awaiting further development)

	Probable Recovery
Kansas (all discoveries)	20,000,000
Oklahoma (all discoveries)	2,500,000
Texas (all discoveries)	184,000,000
West Texas 1,000,000	
South Texas 65,000,000	
North Texas 3,000,000	
Texas Gulf Coast 115,000,000	
Louisiana Gulf Coast	150,000,000
California	100,000,000
All others (Arkansas, North Louisiana, Rocky Mountains, Eastern States)	15,000,000

of a majority of the discoveries made since 1928, indicating the extent to which they contributed to present known underground oil reserves. It is difficult to obtain reliable estimates of ultimate recovery from all new fields brought in, particularly where development has been slow and the productive limits have not been fully defined. A careful survey of new fields brought in since 1928, however, offers a fairly reliable index of what may be expected from each. This data is contained in as complete form as possible in Table 2.

Nothing Important Thus Far in 1932

The first quarter of 1932 has passed without the discovery of one new, important field. The quota for this year, according to the data presented herein is 1,330,000,000 barrels. Whether the industry will find new sources of supply this year, equivalent to that ultimate recovery depends primarily upon the immediate course of oil prices. If conditions warrant a further increase in the crude market in the near future, it is possible that additional areas will be discovered by the wildcatter. If prices are not increased sufficiently in the near future to furnish an incentive to the wildcatter to go out and test new areas, conditions will undoubtedly shape themselves to the point where productivity of existing reserves will prove incapable of supplying market requirements and prices will shoot up to a point where the search for new oil fields will again be on in earnest.

Too much oil? These facts would hardly indicate an over-abundant underground supply—and yet, we hear warnings against over-supply. Over-supply can only be attributed to over-production and excessive storage—not to an excessive reserve supply. The future of the oil industry rests upon its ability to supply the growing demand and unless the underground supply is adequate to maintain required annual rates of withdrawal, prices would become prohibitive and lead to the ultimate non-existence of the industry. There is every reason to believe that future oil requirements will be found as needed, but it is essential to be able to rely upon a continued reserve sufficient to last from 10 to 12 years.

It is felt in some quarters that the best thing that could happen to the oil industry would be to fail to find any new fields for about two years, in order to completely eliminate the possibility of an increase in potential production. Yet, expert opinion would indicate that the present potential production is not nearly as menacing as we were led to believe some time ago. In fact, there is already sufficient evidence available to show that even though production restrictions were removed, any material increase in crude production from flush areas, including East Texas, could not long be maintained. The point to be emphasized here is that present prices of crude do not offer an incentive for a renewed drilling campaign, and it may be some time before prices will advance sufficiently to spur effort in that direction. No new fields of particular importance were found last year and may not be found this year. In the meantime, the underground reserves are being depleted to the extent where potential production of even a short time ago has ceased to be a market factor.

Volunteer Economists Selected *To* Survey Oil Needs *to January*

WASHINGTON, D. C.—Immediate preparation by the volunteer committee on petroleum economics of the Federal Oil Conservation Board of a survey of national petroleum requirements for the period from April 1 to December 31, 1932, inclusive, was ordered April 11 by Secretary of the Interior Wilbur, chairman of the board.

The survey will be made by John W. Frey, chief of the petroleum section of the bureau of foreign and domestic commerce of the Department of Commerce, appointed by the Secretary as chairman of the committee; Martin Van Couvering of Los Angeles; Howard Bennette of the Western Petroleum Refiners Association, Tulsa; Clarel B. Mapes of the Mid-Continent Oil & Gas Association, Tulsa, and Sidney A. Swensrud of the Standard Oil Company of Ohio, Cleveland.

The report is to be submitted to the mid-year meeting of the American Petroleum Institute at Tulsa, June 1-3; it will treat of the probable crude oil and motor fuel demands of the country, and will in a measure be a companion report to a similar survey to be made by the Institute.

The volunteer committee on petroleum economics has since 1930 compiled periodic reports dealing with anticipated consumption of refined products, probable crude production necessary efficiently to meet national requirements, and allocation of production requirements as between the larger producing areas of the country.

MEN IN THE INDUSTRY'S NEWS

JOHN W. FREY

CHIEF OF THE PETROLEUM DIVISION, DEPARTMENT OF FOREIGN AND DOMESTIC COMMERCE

HEADS VOLUNTEER ECONOMISTS

- Appointed by Secretary of the Interior, Wilbur, who is also chairman of the Federal Oil Conservation Board, to act as chairman of the Volunteer Committee on Petroleum Economics to make a survey of oil requirements for the balance of the year. (See story on opposite page.)

- Mr. Frey has long been in government work and in 1930 was made Assistant Chief Business Specialist, Petroleum Section, Minerals Division, Department of Commerce. Among his other accomplishments, Mr. Frey is credited with having compiled the Mining Laws for many of the Foreign countries and has collaborated in the writing of several books.

JOHN W. FREY

CHAS. F. ROESER, Fort Worth, operator and president of the Texas Oil & Gas Conservation Association, departed for Washington, D. C., via airplane on the morning of April 13 at the urgent call of Wirt Franklin who is leading the fight for a petroleum tariff, or excise tax, on imports. Roeser took an active part last week in the successful campaign conducted to line up all the major companies with a crude price advance throughout the Southwest.

H. L. GARD sailed from New York aboard the "Acquitania" on April 6 en route to England and thence to Iraq, where he will serve as assistant superintendent in the construction of the Iraq pipe line. He was preceded by C. A. Mulligan, superintendent, who probably will be stationed at Haifa, Palestine; and by George O'Connor and Burrel Davis, who will serve as assistant superintendents.

JULE CALMONT AXELSON, president of Axelson Manufacturing Company, Los Angeles, was married April 1 to Mrs. Gladys Rylands Coverley. Mrs. Axelson is the daughter of Mr. and Mrs. Thomas Rylands of New York and Los Angeles, and a niece of the late Sir John Pritchard of London and Sir Peter Rylands, member of parliament. Following their honeymoon the couple will spend the summer at Balboa, returning to Los Angeles in the early fall.

J. C. FASTNOW, Wichita Falls operator and member of the creditors' committee in charge of the affairs of American Refining Properties, Inc., has been elected general manager of the concern, succeeding E. H. Eddleman, who resigned some months ago to become executive vice president of the Texas Oil & Gas Association. The above concern owns the largest refinery in the Wichita Falls district, but has abandoned operations permanently.

MARK FINSTON, organizer and for 15 years president and general manager of the Bell Oil & Gas Company, died Tuesday, April 12, after an illness of more than a month. Funeral services were held in Tulsa.

W. L. CHILDS, vice president and general manager of Reed Roller Bit Company, Houston, has returned from a trip by plane to Montana, where, due to the introduction of the rotary some time ago, five rotary tests are now under way.

GEORGE H. LANG, assistant executive and Jack J. Conry, superintendent of production, have been added to the board of directors of Carter Oil Company, according to a statement issued by Clarence H. Lieb, the new president. Both Lang and Conry served in similar positions under R. H. Young, who retired from the presidency as of March 31.

F. C. VAN DEINSE, formerly oil umpire for most California fields, is now located in San Francisco, having left Los Angeles to look after oil interests which center in the northern city.

WALTER CAMERON has been elected president of Whepley Oil Company of California. Other directors include Mrs. J. R. Whepley, Emprey Robertson, A. M. Drew, and D. A. Mendenhall.

W. J. HARDY and W. L. Caldwell, scouts, have been transferred by Sun Oil Company from East Texas to the San Antonio district. Hardy formerly was assigned to this district and transferred to East Texas about a year ago. Under his new assignment he will work in the Beeville sector, while Caldwell, a new comer to South Texas, will center his interest around Corpus Christi.

F. R. COGGESHALL of the engineering department of the North American Car Company, has been transferred from Tulsa to Coffeyville, Kansas.

LIONEL BARNESON, W. H. Geis, A. A. Jergins, A. S. Johnston, L. C. Kelley, Charles A. La Fever, Ralph M. Smith and Roy W. Young have been elected to the board of directors of the Oil Producers Sales Agency of California to fill vacancies caused by term expirations.

E. M. BEDFORD, assistant treasurer of Western Gulf Oil Company, California subsidiary of Gulf Oil Corporation, has been with the western organization for more than five years. He is well known in the Mid-Continent, where he and his father developed extensive producing properties. Bedford attended Centre College. The most recent event of interest was the birth to Mr. and Mrs. Bedford on April 11 of a seven and one-fourth pound baby boy.

M. ALBERTSON

M. ALBERTSON, engineer for the Shell Petroleum Corporation with headquarters at Dallas, has been one of the more active members of the Southwestern District, Division of Production, American Petroleum Institute, and under his direction the paper presented at Tyler on April 14 and published on page 28 of this issue of THE OIL WEEKLY was prepared. This paper was received with considerable interest and will prove of value to engineers interested in the subject of the use of small tapered tubing.

LLOYD R. LEVER, sales manager of Thermoid Rubber Company, Trenton, New Jersey, visited last week with Dave Sands, Mid-Continent representative in Tulsa while on a tour of the oil country.

W. B. DAMSEL, vice president of Victaulic Company of America, New York City, recently made a tour of the Mid-Continent and middle western areas, calling on distributors.

C. M. BALLARD, vice president and general sales maanger, Willamsport Wire Rope Company, has just completed a trip of a month through the Western and Southern territories, visiting with district managers of the company.

Southwest Engineers Study East Texas Problems *at Tyler*

By JACK LOGAN
Staff Representative

Tyler, Texas.—Talking a language which would have seemed strange a few years ago, petroleum engineers and production men at the A. P. I. Southwest District, Division of Production meeting here Thursday, April 14, made it apparent that petroleum engineering is only at the threshhold of a wide and useful application, and that the producing division of the petroleum industry will eventually achieve efficiencies and economies which are hardly conceivable today.

Pausing momentarily in their efforts toward more complete understanding of oil wells and oil fields, these men had reconnoitered for an exchange of ideas and mutual revelation of discoveries, and the image which their conversation conjured was an oil field handled with deft and skilled hands guided by a mind understanding exactly what was going on underground as well as at the surface.

Suggesting much longer flowing production and other advantages of a true understanding of bottom hole pressures, envisioning longer-lived wells and dollars saved by tapered and smaller tubing strings, picturing the East Texas field as a great paraffinic crude oil area which should offer no difficulties through paraffin accumulation in consequence of recent scientific discoveries, and prophesying a not-distant time when pumping wells will be given the same thoughtful consideration and treatment from conservation standpoint as flowing wells, these men in their papers and their discussions strikingly reflected the advancement which is being made in methods of developing oil reserves.

In recognition of the responsibilities of the oil industry and the public to each other as well as their common interests, the program for the Tyler meeting was made to embrace two discussions of conservation of oil resources in addition to three papers of a more technical nature (presented elsewhere in this issue) dealing with problems in the East Texas field, since production departments are largely concerned with that area at present.

Johnston Heads A. P. I. Southwest Engineers

Tyler, Texas.—Blaine Johnston, Dallas, Texas, vice president of Simms Oil Company in charge of production, has been selected for the forthcoming year as chairman of the southwestern district division of production, American Petroleum Institute. His elevation to that position was announced at the spring meeting of the district organization held here Thursday, April 14.

Mr. Johnston has been a leader in activities of the American Petroleum Institute over a long period, and has written various papers on drilling and production problems. During the past year he served in the southwest district production group as vice chairman for East Texas activities.

Along with Mr. Johnston six other officers were elected for the coming year. Five vice chairmen, who will be in charge of activities in the various sections of the southwestern district, were selected as follows: John Ritter, Sun Oil Company, Dallas, vice chairman for the East Texas section; W. Vietti, The Texas Company, Wink, Texas, for West Texas; W. T. Doherty, Humble Oil & Refining Company, Houston, for the Gulf Coast; C. B. Clement, The Texas Company, Wichita Falls, for the North Texas section; and Col. W. C. O'Farrell. Standard Oil Company of Louisiana, El Dorado, Arkansas, for the Arkansas-Louisiana section. C. W. Alcorn, Shell Petroleum Corporation, Dallas, was chosen secretary-treasurer.

MARKETS—STATISTICS

Refinery Runs Increased 100,000 Barrels
East Texas Completions Send Output Up
All Purchasers Meet Mid-Continent Price

H. J. STRUTH, ***Staff Economist, Houston, Texas***

East Texas Exceeds Allowable; Lower Well Limit Set

ALTHOUGH daily average production of the United States for the week ending April 16, appears to have shown a decline under the preceding week of 3300 barrels, output of East Texas rose sharply to a point well above the field allowable. National daily production of crude last week, according to estimates compiled from official sources, amounted to 2,208,070 barrels, compared with a daily average for the preceding week of 2,211,380 barrels, a decline of 3310 barrels a day.

East Texas production averaged 359,608 barrels a day, an increase over the preceding week of 29,308 barrels. At the current rate of production East Texas is exceeding the field allowable by about 34,000 barrels a day. Sharp increases in field activity in East Texas has brought to production many additional wells, bringing the total well up to the 5000 mark. On the basis of 5000 operating wells, the field allowable of 325,000 barrels a day would necessitate a revision in well allowables to a maximum of 65 barrels, as compared with the 67 barrels set for the two-week period beginning Saturday, April 16.

Last week's production figures show increases for Kansas, Texas outside of the Gulf Coast, North Louisiana, Arkansas, Eastern States, Rocky Mountain States and California. Declines were reported for Oklahoma and Gulf Coast. Oklahoma reported a decrease in production of 41,340 barrels a day, the bulk of which was at Oklahoma City.

Oklahoma City production for last week was reported at a daily average of only 81,220 barrels, as compared with 127,270 barrels in the preceding week. This represented a decline of about 46,000 barrels a day. State production was off last week to the extent of nearly 41,000 barrels a day, although output of the Greater Seminole area rose about 24,000 barrels. Kansas production figures revealed an increase of less than 4000 barrels, bringing the output of the state up to approximately 100,000 barrels a day.

California Up Some More

California production moved forward again last week, rising to a daily average for the state of 518,000 barrels, against 515,100 barrels in the preceding week. Long Beach continued to function on a more or less "wide-open" program, producing a daily average of 81,000 barrels, which is considerably in excess of the allowable.

Santa Fe Springs also reported an increase of 1600 barrels a day, with a daily average for the week of 67,700 barrels; also somewhat above allowable. It is difficult to see how California operators can expect a higher price for their oil, with production of the state running far above current market requirements. Still, rumors are spreading there to the effect that higher prices will shortly be realized.

About the only encouraging thing in the California oil situation at present is a sharp increase in shipments of gasoline to the Atlantic seaboard. During the week ending April 9, shipments of California gasoline to the East, via the Panama Canal, attained a daily average of 62,143 barrels, representing a material gain over previous weeks and amounting to about eight times the volume shipped during March, when the daily average was 7581 barrels.

THE OIL WEEKLY

Estimated Daily Average Production

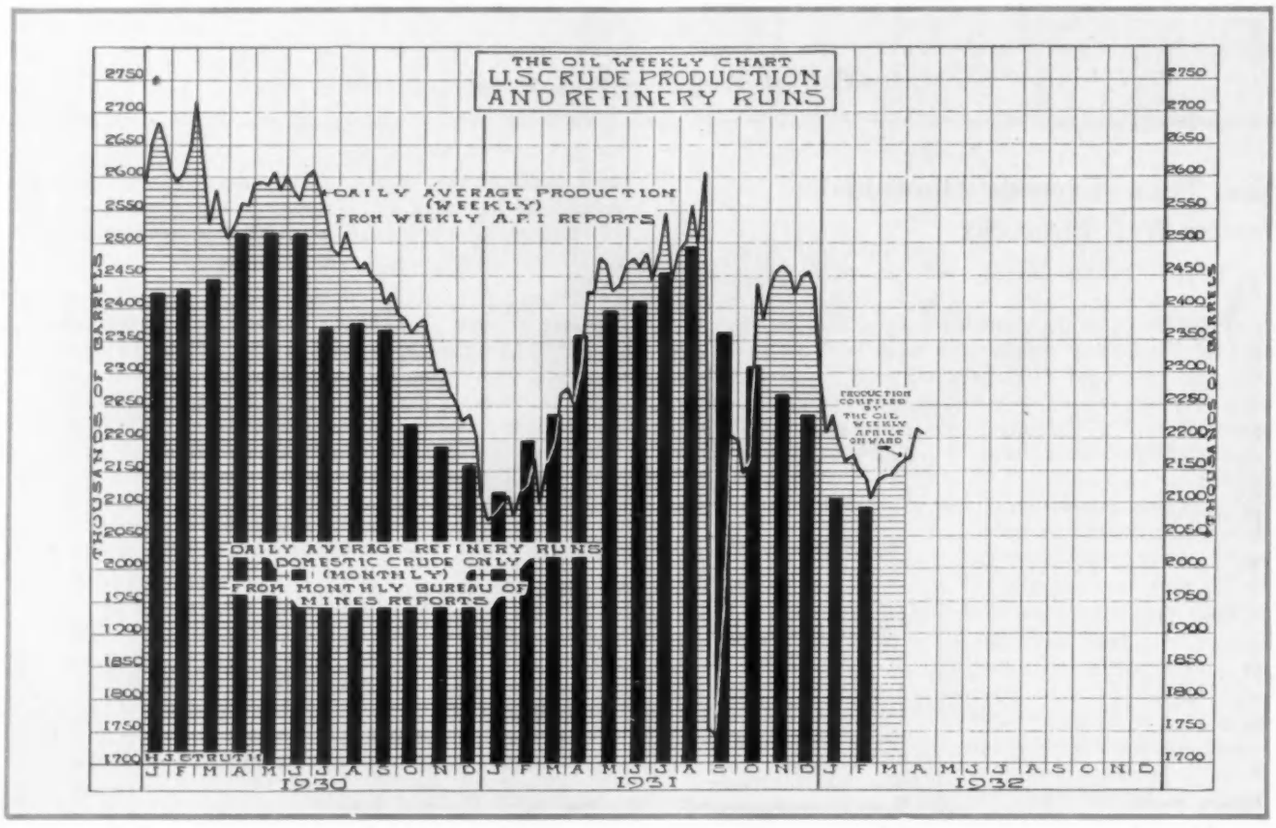
Week Ending April 16, 1932

	For Week Ending April 16	Previous Week
Texas Panhandle	48,590	47,850
North Texas	50,320	50,250
West Central Texas	25,110	24,900
West Texas	184,310	187,600
East Central Texas	55,000	55,000
East Texas	359,608	330,200
Southwest Texas	50,881	50,950
Total Texas, Outside of Gulf Coast	773,819	746,750
Texas Gulf Coast	106,843	108,600
Total Texas	880,662	855,350
Oklahoma City	81,220	[1]127,270
Seminole	146,500	[1]122,470
Other Oklahoma	181,410	200,730
Total Oklahoma	409,130	[1]450,470
Ritz-Decker	12,730	12,600
Voshell	9,410	7,430
Other Kansas	77,840	76,340
Total Kansas	99,980	96,370
North Louisiana	27,550	26,400
Louisiana Gulf Coast	30,703	29,300
Total Louisiana	58,253	55,700
Arkansas	34,825	34,300
Long Beach	81,000	80,300
Santa Fe Springs	67,700	66,100
Midway-Sunset	52,000	51,200
Kettleman Hills	60,000	60,000
Other California	222,475	223,200
Total California	518,000	515,100
Wyoming	39,380	38,600
Montana	6,730	6,650
Colorado	3,400	3,500
New Mexico	36,610	36,700
Total Mountain States	86,120	85,450
*Eastern States	121,100	118,500
Total United States	2,208,070	[1]2,211,380

*Includes Michigan
[1]Revised

Refinery Runs Up 100,000 Barrels

Runs to stills for the week ending April 9 averaged about 2,376,000 barrels a day at all refineries in the United States. This was an increase over the preceding week of nearly 100,000 barrels a day. While the curve brought up to date on the accompanying chart is still below the normal line for the current period, it should be borne in mind that the excesses of January and February have not as yet been offset. It is apparent, therefore, that runs should not have been increased more



United States Daily Average Production

1931	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
January	452,000	106,350	511,050	188,850	41,100	50,700	110,300	96,700	535,700	2,092,750	64,874,450
February . . .	473,750	114,450	523,700	185,600	43,950	49,950	109,800	100,100	527,300	2,128,600	59,600,450
March	531,900	110,550	585,000	177,950	40,250	47,550	108,800	95,400	528,100	2,225,500	68,990,850
April	543,650	109,250	723,050	185,850	39,050	47,000	111,500	95,500	527,350	3,382,200	71,465,750
May	561,950	107,400	767,200	185,950	39,200	46,650	111,250	97,500	534,150	2,451,250	75,975,950
June	556,850	103,150	828,250	170,100	36,500	44,900	108,950	97,950	520,300	2,466,950	74,009,750
July	527,950	100,000	912,250	157,850	33,650	41,400	107,600	94,400	517,900	2,493,000	77,282,700
August	306,150	101,900	976,800	153,550	30,400	37,650	109,600	92,900	510,900	2,319,050	71,890,200
September . .	261,050	104,600	752,250	149,950	29,600	38,000	117,400	92,250	505,550	2,050,650	61,518,950
October	423,600	103,950	865,800	153,500	29,200	37,750	121,600	93,950	503,800	2,333,150	72,327,750
November . . .	541,250	104,750	855,550	158,850	29,300	37,650	124,300	93,950	503,050	2,448,650	73,460,150
December . . .	534,650	105,500	795,500	153,550	27,850	35,100	124,500	92,150	503,000	2,371,800	72,525,700
1932											
January	439,250	99,400	735,450	141,050	28,850	34,250	123,050	82,800	505,900	2,190,000	67,890,550
February . . .	412,750	99,300	715,600	140,100	28,400	33,650	118,200	83,600	502,500	2,134,100	61,888,700
March	421,550	99,300	732,800	136,500	27,900	34,250	114,550	84,600	501,300	2,152,750	66,735,200
April 2	417,550	97,200	746,200	140,000	27,400	33,500	120,000	85,250	500,900	2,168,000	15,176,000
April 9	[1]450,470	96,350	746,750	137,900	26,400	34,300	118,500	85,450	515,100	[1]2,211,380	15,479,660
April 16	409,130	99,980	773,819	137,546	27,550	34,825	121,100	86,120	518,000	2,208,070	15,456,490
Increase	. . . . .	3,630	27,069	. . . . .	1,150	525	2,600	670	2,900	. . . . .	. . . . .
Decrease	41,340	. . . . .	. . . . .	354	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	3,310	23,170

[1] Revised.

than 80,000 barrels a day, since gasoline stocks have again shown an increase.

It is particularly encouraging to note that despite the sharp increases in runs to stills, gasoline stocks only increased about 9000 barrels a day. This indicates that current demand is absorbing the bulk of the increased gasoline output and offers reason to believe that the next few weeks will witness the withdrawal of substantial amounts of gasoline from storage. This is predicated upon the assumption that runs will not be increased over their present rate for the next few weeks, at least. The projected normal line on the accompanying chart is now believed to serve as a fairly accurate guide to normal refinery operations, since a review of preceding results shows the curve to be approximately correct. If refiners manage to keep runs at a rate not in excess of the projected normal curve until June 30, further advances in the gasoline market will perhaps be realized and sustained.

Runs of domestic crude of United States refineries are in approximate balance with current daily average production of crude, indicating that the producer has managed to maintain production within economic limits. With refinery runs only about 20,000 barrels a day in excess of absolute normal levels and crude production being maintained at a level which is already causing many districts to draw heavily on storage, the outlook for the immediate future appears particularly bright. Much depends, however, upon the rate at which refinery operations are conducted. If runs are increased from present levels, refiners will face the prospect of further excessive gasoline production and a resumption of weakness in the refined oil price structure. If refined oil prices are not sustained through a balanced refined oil situation, the producer may as well reconcile himself to the thought that crude prices will not hold at their present level.

Petroleum Imports Turn Sharply Upward

Analysis of weekly import statistics shows a sharp increase in imports of all oils since the beginning of April. In fact, the daily average receipts of foreign oil in the United States for the week ending April 2 constituted a gain over the rates shown for February and March of practically 100 per cent. Figures for the week ending April 9, however, showed a decline in daily average which compared more favorably with the March rate. Daily average imports for the week ending April 2 amounted to 617,286 barrels, against a daily average of 338,161 during March and 253,483 in February. Figures for April 9 showed a daily average of 334,571 barrels, representing a decline under the preceding week's rate of about 283,000 barrels a day. Crude oil imports for the week ending April 9 averaged about 177,000 barrels a day, compared with 400,000 barrels for the preceding week and 205,000 barrels in the month of March. Gasoline imports increased appreciably over February and March averages, having attained a daily average of about 70,000 barrels for the week ending April 9 and 95,000 barrels in the preceding week. These rates compared with a daily average for March of about 37,000 barrels. The bulk of these imports are being received on the Atlantic seaboard. Imports of all oil for the week ending April 9 aggregated 2,342,000 barrels, or at a monthly rate of 9,368,000 barrels, against 10,483,000 barrels in March and 7,351,000 barrels in February. The monthly rate indicated by imports for the week ending April 2 was about 17,284,000 barrels, a gain of about 7,000,000 barrels over the import total for March.

Crude Price Advance Now Unanimous

All of the major purchasing companies having met the advance of 15 cents posted by Continental Oil Company as of April 1, which makes the new scale of prices in the Mid-Continent area unanimous. Mid-Continent oil of 36 gravity is now posted throughout the area at 92 cents a barrel, with a top price of $1.00 for the highest gravity oil. Higher prices now prevail in all Mid-Continent fields, Gulf Coast, West Texas and New Mexico, Rocky Mountain States, Mid-Western States and even in Pennsylvania. Re-

Crude Price Changes

Effective April 11, Humble Oil & Refining Company met advances initiated previously by Mid-Continent purchasers. West Texas and New Mexico crudes were advanced 15 cents a barrel, to 65 cents flat. Refugio heavy oil was posted at 80 cents; Mirando, 80 cents; Pettus $1.00; Salt Flat and Darst Creek 75 cents. Gulf Coast prices were increased in accordance with the schedule previously placed into effect by The Texas Company. Gulf Production Company also advanced Gulf Coast to a like degree. North Texas and Panhandle crude purchased by Humble Oil & Refining Company will command the higher prices previously adopted by Magnolia Petroleum Company and other purchasing companies. Humble does not post for East Texas oil, but states that it will pay the "going" price.

Effective April 11, Gulf Refining Company and Standard Oil Company of Louisiana met new oil prices posted previously in Louisiana and Arkansas. Sun Pipe Line Company also posted advances for Gulf Coast oil, adopting the schedule of other purchasing companies.

Effective April 11, Ohio Oil Company advanced prices for Illinois, Princeton, Lima-Indiana and Western Kentucky crudes 15 cents a barrel and Wooster oil 10 cents a barrel. On the same date, this company posted increases for Elk Basin, Grass Creek, Big Muddy, and Rock Creek, Wyoming, crudes of 15 cents a barrel and Lance Creek, 10 cents, and Sunburst, Montana, 5 cents.

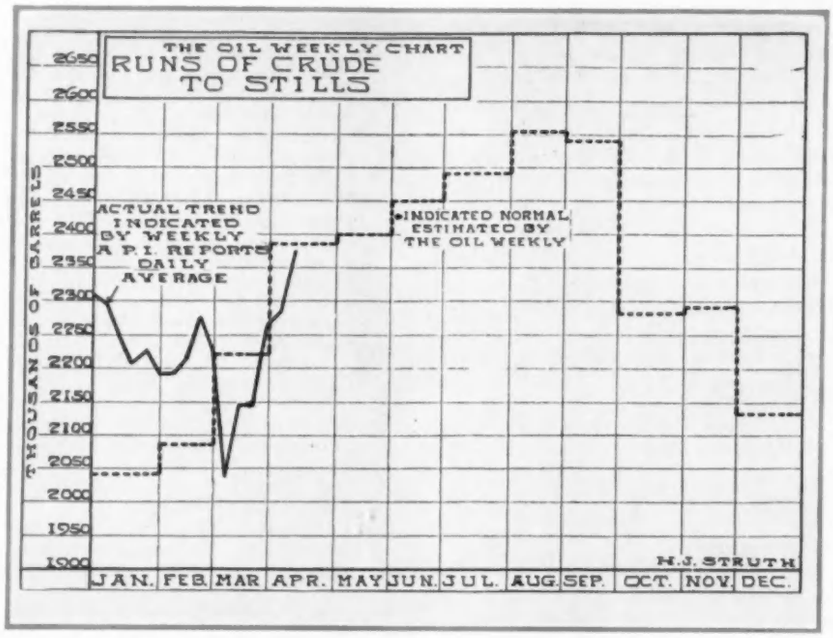
Effective April 12, Joseph Seep Purchasing Agency advanced the price of Corning crude 10 cents a barrel to 95 cents.

Comparison of Permits Granted for New Wells

	For week ending April 9	Total this month	Total this year	Total this date last year	1931 year total
Arkansas	1	1	3	16	34
California	7	10	70	116	342
Louisiana	7	22	109	102	309
Kansas	6	17	140	137	475
Oklahoma	18	47	287	345	842
Texas	182	344	1762	1430	6961
Total	221	441	2371	2146	8963

Summarized Review of Field Results

State—	Completions	Oil wells	Gas wells	Failures	Initial prod.
Arkansas	3	1	0	2	300
California	7	5	0	2	4,850
Illinois	2	1	0	1	15
Indiana	2	1	0	1	190
Kansas	9	3	2	4	1,384
Kentucky	10	6	2	2	150
Louisiana	8	3	0	5	5,740
Michigan	4	0	0	4	0
Mississippi	1	0	1	0	0
New Mexico	0	0	0	0	0
New York	0	0	0	0	0
Ohio	15	3	10	2	11
Oklahoma	11	7	0	4	1,145
Pennsylvania	2	0	2	0	0
Texas	144	123	0	21	1,033,685
West Virginia	3	0	2	1	0
Miscellaneous	0	0	0	0	0
Totals	221	153	19	49	1,047,470



ports have even been heard that prices may soon be advanced in California, although it is doubtful whether such a dream will be realized under existing absence of curtailment effort among California operators. If the price is advanced there without first forcing operators to reduce output, it is obvious that it will not long be sustained.

On April 11, Ohio Oil Company announced increases of 10 and 15 cents a barrel for oil purchased throughout the Rocky Mountain area and also posted advances of 5, 10 and 15 cents for Mid-Western crude. On April 12, Joseph Seep Purchasing Agency posted an increase of 10 cents a barrel for Corning crude. Throughout the period between April 1 and April 12 major purchasing companies in practically all areas east of California have either adopted price schedules previously placed into effect or have taken the initiative in announcing additional upward revisions in fields not included in the initial boost.

The second increase of a cent a gallon for gasoline was initiated by the Magnolia Petroleum Company, April 13 and placed into effect throughout that company's marketing territory. This advance was promptly met by The Texas Company and is expected to be met by other marketing companies. Higher crude prices and advancing tank car prices were explained to be the reason for the second advance in gasoline prices within a period of two weeks. Advances in retail gasoline prices have also been announced

Crude Runs to Stills, Gasoline Stocks and Gas and Fuel Oil Stocks

Report for Week Ending April 9, 1932

(Figures in Barrels of 42 gallons each)

District—	Potential Capacity (Daily) Total	Reporting	Per Cent	Crude Runs to Stills Total	Daily Average	Per c't Operated	Gasoline Stocks (see note below)	Gas & Fuel Oil Stocks
East Coast	633,700	633,700	100.0	3,134,000	447,700	70.6	7,295,000	5,454,000
Appalachian	149,600	137,400	91.8	589,000	84,100	61.2	1,861,000	1,082,000
Indiana, Illinois, Kentucky	436,300	431,500	98.9	2,251,000	321,600	74.5	6,658,000	4,137,000
Oklahoma, Kansas, Missouri	485,700	435,200	89.6	1,667,000	238,100	54.7	3,976,000	3,050,000
Texas	838,200	765,400	91.3	3,614,000	516,300	67.5	8,566,000	8,574,000
Louisiana-Arkansas	233,100	230,500	98.9	1,195,000	170,700	74.1	1,900,000	4,387,000
Rocky Mountain	160,900	143,800	89.4	219,000	31,300	21.8	1,986,000	631,000
California	914,500	884,100	96.7	3,383,000	483,300	54.7	14,929,000	96,206,000
Total Week Apr. 9	3,852,000	3,661,600	95.1	16,052,000	2,293,100	62.6	47,171,000	123,521,000
Total Week Apr. 2	3,852,000	3,661,600	95.1	15,386,000	2,198,000	60.0	46,519,000	124,110,000
Total Apr. 11, 1931	3,730,100	3,571,200	95.7	16,598,000	2,371,200	66.4	[1]46,757,000	126,838,000
Texas and Louisiana Gulf Coastal figures shown below are included above in totals of their respective districts								
Texas Gulf Coast	532,500	531,500	99.8	2,811,000	401,600	75.6	7,016,000	5,920,000
Louisiana Gulf Coast	147,500	147,500	100.0	840,000	120,000	81.4	1,773,000	3,727,000

NOTE: Stocks at refineries, except in California district, which include stocks of finished gasoline and engine distillate at refineries, water terminals and sales distributing stations and amounts in transit thereto.

[1]This figure is not entirely comparable with current stocks due to revisions made since original publication of this figure, for which revisions the basic information is not available by weeks. If it were possible to have made the revision, the new figure would reflect somewhat lower stocks.

by Standard Oil Company of Indiana and Sinclair Refining Company. This has resulted in a more or less general advance in the gasoline market throughout the East, Middlewest and Southwest. The effect has been to boost the tank car market to the point where returns to the refinery more than justify payment of present prices for crude oil.

U. S. Motor gasoline in Group 3 continues to advance toward higher levels and has in some cases passed 5 cents a gallon f.o.b. refinery. High Octane gasoline now commands from 5 to 5½ cents a gallon. Kerosene prices have staged a rapid advance in recent weeks and are now up to a top price of 3¾ cents. This product continues to be rather scarce while the demand is unusually large.

Optimism is becoming general throughout the industry and predictions are being freely made that prices will rule considerably higher in the near future.

Tank Wagon Increases Gives All Refined Products Stronger Tone

Announcement of a one cent increase in tank wagon prices by Standard Oil Company (Indiana) following similar action by other marketers, was expected to have a general bracing effect on the Mid-Continent market which had rocked along with practically no change during the early part of the week. Low octane motor fuels were being quoted by the smaller refiners at a low of 4½ cents and at 5 cents by the major refiners, the middle bracket or 57 to 65 octane number fuels at 5½ cents, and above 65 octane at 5¾ cents. Natural gasolines had a fair demand at 2½ cents and the 11-pound stabilized grade was quoted at 4 cents with a brisk demand. Fuel and gas oils were showing added strength.

Kerosene continued at its highest point within the past few years and had been exceptionally scarce at 3⅝ cents early in the week. At the end of the week the demand had not lessened and nothing was offered lower than 3¾ cents to 4 cents. This condition was due to scarcity of the product rather than a sudden appreciable increase in demand. Two large marketers have reduced stocks so low that delivery cannot be assured within a reasonable time.

Cracked Gasoline Production

Report for Week Ending April 9, 1932

(Barrels of 42 gallons)

	Potential Charging Capacity			Production	
	Total	Daily Reporting	%	Total	Daily Average
East Coast	261,300	236,300	94.1	558,000	79,700
Appalachian	56,300	54,100	96.1	169,000	24,200
Ind., Ill., Ky.	330,400	315,400	95.5	589,000	84,100
Okla., Kans., Mo...	237,800	219,500	92.3	394,000	56,300
Texas	450,800	436,200	96.8	656,000	93,700
Louisiana-Arkansas..	112,400	112,400	100.0	245,000	35,000
Rocky Mountain ..	99,900	98,400	98.5	68,000	9,700
California	190,800	190,800	100.0	269,000	38,400
Total Week Apr. 9.	1,739,700	1,663,100	95.6	2,948,000	421,100
Total Week Apr. 2.	1,739,700	1,663,100	95.6	2,922,000	417,400
Total Apr. 11, 1931.	1,589,600	1,508,500	94.9	3,179,000	454,200

The Texas and Louisiana Gulf Coastal figures shown below are included above in the totals of their respective districts.

Texas Gulf Coast..	352,400	347,400	98.6	514,000	73,400
La. Gulf Coast	77,000	77,000	100.0	185,000	26,400

Texas Association Makes Plea For Caution in Drilling Extension

Fort Worth, Texas.—A plea for companies and operators in Texas to refrain from drilling unnecessary wells, and testing of wildcat acreage has been released by the Texas Oil & Gas Conservation Association. This organization under the guidance of Chas. F. Roeser, president, took an active part in the general campaign for a unanimous support of the high crude prices introduced April 1, and is hopeful of avoiding a return of over-production and wasteful operating conditions.

"The work for conservation has not been finished," said Roeser in his statement, after reviewing the good effects of the work done thus far. We have merely started a plan of orderly development and production in Texas, which will result in great good, both for the industry and for the State, if the present policy is continued. It is up to the producers of this State to refrain from the drilling of all unnecessary wells, both in proven acreage and "Wildcat" territory, to the end that the era of over-production and wasteful practices through which we have been going for the last two years may not return.

More Buyers Officially Post East Texas Prices After Raise

A greater number of major companies are officially posting crude prices in the East Texas field as result of the temporary split in ranks of buyers between April 1 and 11. All companies were in line on the latter date with the 98-cent price, which was initiated by Magnolia Petroleum Company, and adopted last by Stanolind Oil & Gas Company, Gulf Pipe Line Company, Humble Oil & Refining Company and others that follow one, or more of the above companies in settling for oil takings. The Texas Company resumed its postings in the field in promptly meeting the leader, while Empire Gas & Fuel Company and Stanolind Oil & Gas Company made their first public postings in adopting the 98-cent price.

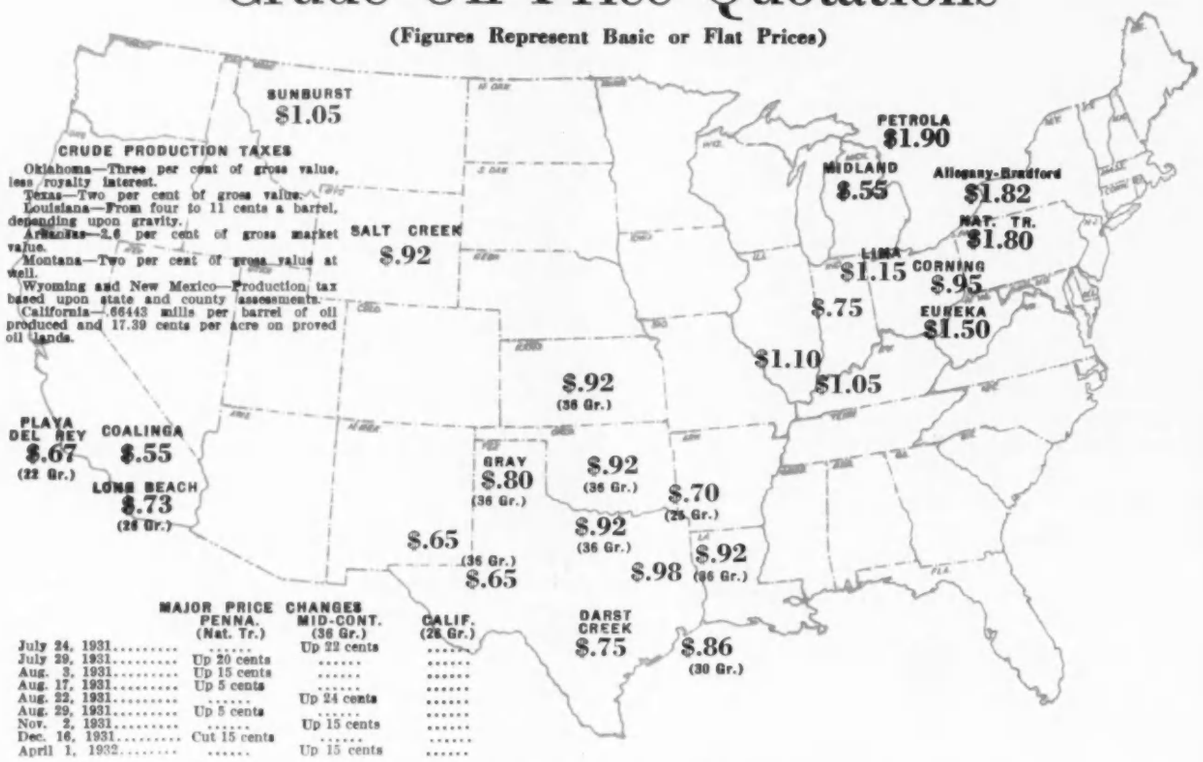
Humble Oil & Refining Company resumed its old policy of paying the "going price" paid for oil by other buyers effective 7 a. m. April 11, after having committed itself to pay 90 cents per barrel for oil accepted between April 1 and 6, and 83 cents per barrel between April 6 and the 11th. This company indirectly resumed posting prices in applying the latter price quotation for the first time since its official posting was withdrawn June 3, 1931.

None of the larger buyers of crude in the East Texas field are aggressive in absorbing new well connections, and until market conditions become thoroughly adjusted to the 15-cent boost in crude some trouble is anticipated in market relief being given promptly to new wells. Approximately 25 wells were seeking connections during the fore part of last week.

Casper, Wyo.—Standard Oil Company of Indiana has announced that it will discontinue operating its refinery at Laramie, Wyoming, due to present economic conditions. Crude oil formerly processed at this plant may be used by the Casper refineries, and products formerly supplied by the Laramie plant will now be shipped from Casper. Older employes at Laramie will be given part time positions at Casper, while those with comparatively short time service records will be given 30 days compensation.

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices)



MAJOR PRICE CHANGES

	PENNA. (Nat. Tr.)	MID-CONT. (36 Gr.)	CALIF. (26 Gr.)
July 24, 1931	.....	Up 22 cents	.....
July 29, 1931	Up 20 cents	.....	.....
Aug. 3, 1931	Up 15 cents	.....	.....
Aug. 17, 1931	Up 5 cents	.....	.....
Aug. 22, 1931	.....	Up 24 cents	.....
Aug. 29, 1931	Up 5 cents	.....	.....
Nov. 2, 1931	.....	Up 15 cents	.....
Dec. 16, 1931	Cut 15 cents	.....	.....
April 1, 1932	.....	Up 15 cents	.....

Official Postings and Differentials

(Revised to April 15, 1932)

California: (Effective June 19, 1931.)

Signal Hill, Seal Beach and Alamitos Heights: 14 to 22.9 gravity 65 cents; 23 gravity 67 cents with differential to two cents for each degree upward. Top price for Signal Hill, 30 gravity, 81 cents; top price Seal Beach and Alamitos Heights, 27 gravity, 75 cents.

Huntington Beach: 14 to 21 gravity, 65 cents; 22 gravity, 66 cents with differential of two cents for each degree upward. Top price, 27 gravity, 76 cents.

Inglewood: 14 to 19.9 gravity 65 cents; 20 gravity 66 cents with differential of two cents for each degree upward. Top price, 25 gravity 76 cents.

Playa Del Rey: 19 to 20.9 gravity 65 cents with differential of one cent for each degree upward. Top price, 25 gravity, 70 cents.

Olinda and Brea Canyon: 14 to 19.9 gravity 65 cents; 20 gravity 66 cents; 21 gravity 67 cents; 22 gravity 68 cents with differential of two cents for each degree upward. Top price, 28 gravity, 80 cents.

Coyote Hills: 14 to 22.9 gravity 65 cents; 20 gravity 66 cents; 21 gravity 67 cents with differential of two cents for each degree upward. Top price, 28 gravity, 79 cents.

Santa Fe Springs: 24 to 26.9 gravity 65 cents; 27 gravity 68 cents; 28 gravity 71 cents; 29 gravity 73 cents; 30 gravity 75 cents; 31 gravity 78 cents; 32 gravity 80 cents; 33 gravity 83 cents; 34 gravity 85 cents; 35 gravity and above 87 cents.

Whittier, La Habra and Montebello: 65 cents a barrel.

Torrance: 14 to 21.9 gravity 65 cents with differential of one cent for each degree to 25 gravity and two-cent differential for 25 gravity. Top price, 25 gravity, 70 cents.

Richfield: 14 to 20.9 gravity 65 cents; 21 gravity 66 cents with differential of two cents for each degree upward. Top price, 25 gravity, 74 cents.

Elwood: 33 gravity 79 cents; 34 gravity 81 cents with differential of three cents for each degree upward. Top price, 36 gravity, 87 cents.

Newhall, McKittrick and Kern River: 55 cents a barrel.

Midway-Sunset, Elk Hills and Buena Vista Hills: 14 to 21.9 gravity 55 cents; 22 gravity 56 cents; 23 gravity 58 cents; 24 gravity 61 cents; 25 gravity 64 cents; 26 gravity 66 cents; 27 gravity 68 cents; 28 gravity 71 cents; 29 gravity 74 cents; 30 gravity 76 cents.

Lost Hills: 14 to 20.9 gravity 55 cents; 21 gravity 57 cents; 22 gravity 59 cents; 23 gravity 60 cents; 24 gravity 62 cents; 25 gravity 64 cents; 26 gravity 66 cents; 27 gravity 67 cents; 28 gravity 69 cents; 29 gravity 71 cents; 30 gravity 72 cents.

Coalinga: 14 to 24.9 gravity 55 cents; 25 gravity 57 cents.

Wheeler Ridge: 55 cents a barrel.

Athens, Dominguez and Rosecrans: 24 to 24.9 gravity 69 cents with differential of two cents for each degree upward. Top price, 34 gravity, 89 cents a barrel.

Oklahoma, Kansas, North Texas (Effective April 1, 1932)

Below 29 gravity; 76 cents, with differential of 2 cents for each degree to 40 gravity and above which is posted at $1.00.

Texas Panhandle: (Effective April 1, 1932)

Gray County: Below 35 gravity: 71 cents, with differential of 2 cents for each degree to 40 gravity and above which is posted at 88 cents.

Carson and Hutchinson Counties: Below 35 gravity; 66 cents with differential of 2 cents for each degree to 40 gravity and above which is posted at 78 cents.

West Texas: (Effective April 1, 1932).

Crane-Upton, Crockett, Ector, Howard-Glasscock, Pecos and Winkler Counties, Texas, and Lea County, New Mexico: 65 cents a barrel.

Southwest Texas: (Effective April 11, 1932)

Refugio: Heavy 80 cents.

Refugio: Light: (Same as Gulf Coast—see below).

Gulf Coast: (Effective April 1, 1932).

Goose Creek, Hull, Liberty, Orange, Pierce Junction, Mykawa, Moss Bluff, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugarland, West Columbia, Humble and Refugio Light: Below 25 gravity: 80 cents, with differential of 1 cent for each degree to 40 and above which is posted at $1.00.

Mirando: 75 cents; Salt Flat: 60 cents; Darst Creek: 75 cents; Pettus: 8[illegible] cents; **Markham: 67 cents.**

East Texas (Effective April 1, 1932)

Flat Price: 98 cents.

North Louisiana and Arkansas: (Effective April 1, 1932)

Caddo, Homer, Haynesville, Bull Bayou, Sabine, Cricton, De-Soto, El Dorado, Cotton Valley, Sarepta, Cartersville: Below 25 gravity 68 cents with differential of 2 cents for each degree beginning with 25 gravity and ending with 40 and above. Top price $1.00 a barrel.

Smackover: 65 cents.

Rocky Mountain States: (Effective April 11, 1932).

Salt Creek: Below 29 gravity 76 cents; 29-29.9 gravity 78 cents, with differential of 2 cents each degree to 40 and above. Top price $1.00.

Elk Basin and Grass Creek: $1.20; Big Muddy: 98 cents; Lance Creek, $1.15; Rock Creek: $1.00; Sunburst: $1.05; Osage: 98 cents; Cat Creek: $1.05; Pondera: 90 cents; Hogback, New Mexico: 80 cents.

Eastern States: (Effective April 11, 1932).

Lima: $1.15; Indiana: 75 cents; Illinois: $1.10; Princeton: $1.10; Wooster: $1.25; Western Kentucky: $1.05.

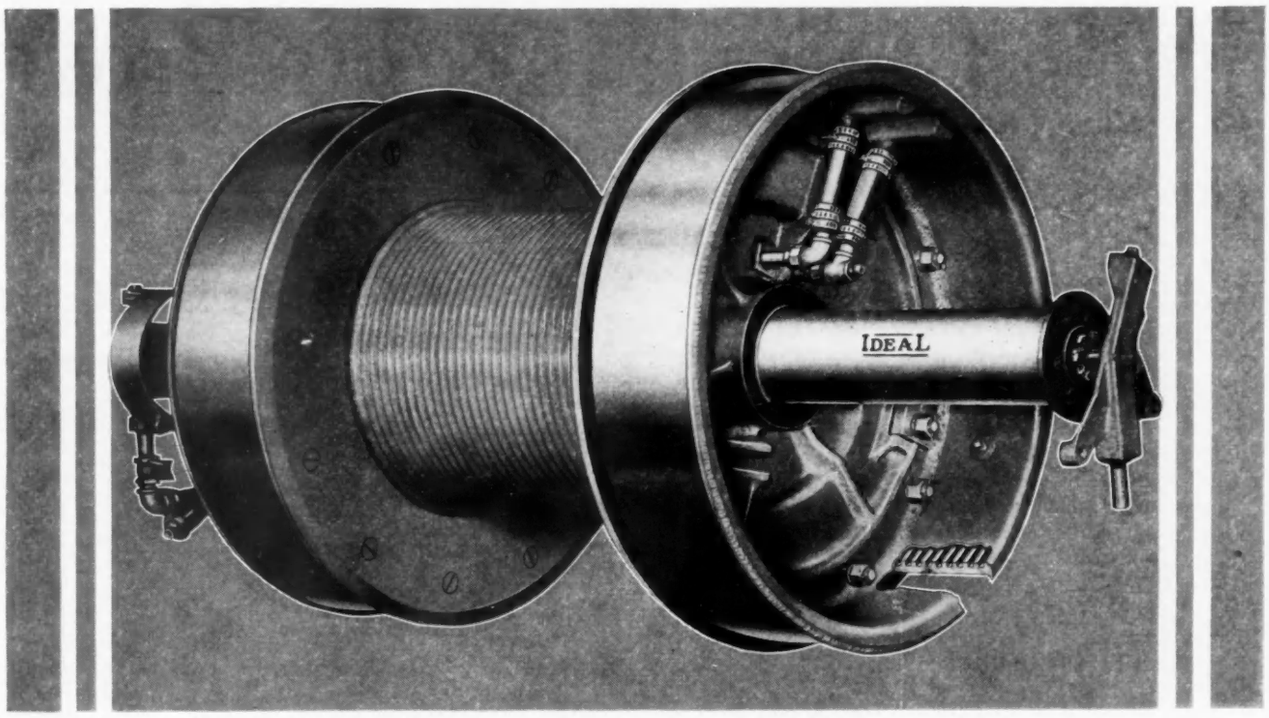
Pennsylvania: (Effective April 12, 1932).

Bradford District: $1.82; **National Transit Oil: $1.80; Southwest Pennsylvania Pipe Line Oil: $1.55; Eureka Pipe line Oil: $1.50;** Buckeye Pipe Line Oil: $1.35; Corning Crude: 95 cents.

Michigan: (Effective Oct. 9, 1931). Midland: 55 cents a barrel. Muskegon: 61 cents to 85 cents a barrel.

Canada: (Effective Nov. 3, 1931)

Petrolia: $1.90; Oil Springs: $1.97.



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Descriptive Bulletin No. 31-A free on request

THE NATIONAL SUPPLY COMPANIES

Recent Developments Prove

Other Advantages

By **J. M. McQUARRIE**

Under the

M. ALBERTSON

THE use of tubing of a size not larger than 2½ inches in diameter is obligatory in the East Texas field, through orders of the railroad commission. In the early days of the field this size was practically standardized on by all of the operators. Recently, however, with the number of wells increasing rapidly in the field and the strict proration which is enforced, several operators realizing that the allowed production will never approach the capacity of 2½-inch tubing, have turned to the use of two-inch and, in many cases, smaller sizes of tapered strings, ranging in size from three-eighths to 1¼ inches.

The use of small and tapered tubing is not original with the field, but has been used successfully in many other areas. The advantages which may be expected from the use of tapered tubing will be discussed in order.

1. Prolonging the Flowing Life of the Well

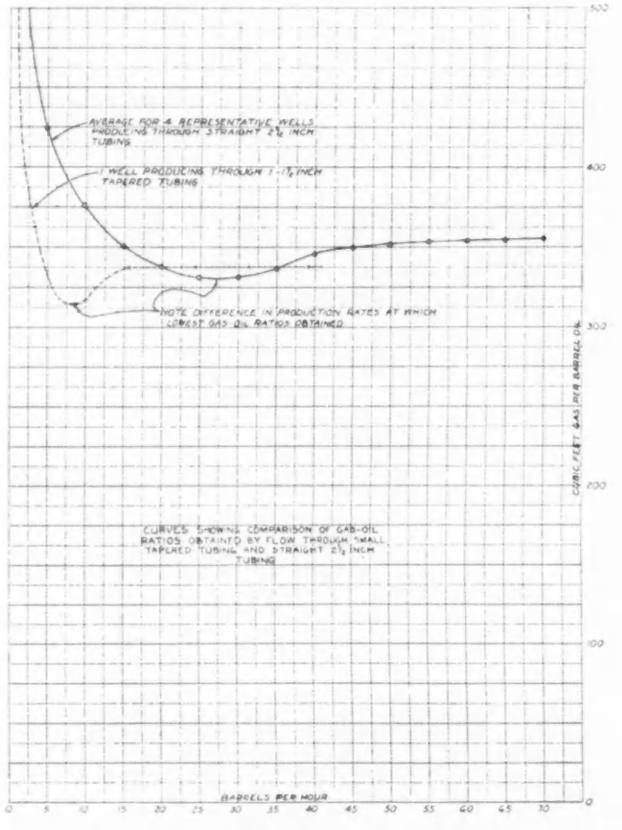
The results of using tapered tubing in prolonging the flowing life of a well in the East Texas area are not known at the present time. Representative wells in the prolific part of the field have not, as yet, ceased to flow through either the large tubing or casing and until this occurs, definite data on the advantages of tapered tubing, in this respect, will not be known. The experience with this type of tubing in other fields justifies the expectation that flowing conditions will be maintained longer by its use than with the larger size of tubing, although conditions in this field as in all fields, have different characteristics.

2. Conservation of Gas

At the present time it is generally agreed that all of the gas is in solution in the oil at the prevailing bottom hole pressures. It is, therefore, natural to assume that gas-oil ratios cannot be controlled by any mechanical means until a decline in pressure has released gas from solution. Characteristic curves showing the gas-oil ratio obtained at different production rates through both 2½-inch tubing and a tapered string of one-inch and 1½-inch is shown in Figure 1. It will be seen from these curves that at the higher rates of flow there is only a very small difference in the gas-oil ratio with the different sizes of tubing. However, the minimum ratio is obtained in the tapered tubing while producing at a rate of from five to 10 barrels per hour, while in the case of the 2½-inch tubing this minimum is reached at a rate of from 25 to 30 barrels per hour. If a well is allowed to produce under steady flow with the present allowable, i. e., three barrels per hour, the gas-oil ratio with tapered tubing will be about 370 cubic feet per barrel of oil and the same rate through 2½-inch tubing gives an approximate ratio of 455 cubic feet per barrel of oil. This is a saving of 85 cubic feet per barrel by the use of tapered tubing. It is, however, impractical to produce wells at the low rate because of paraffin troubles and at the higher rates of flow the advantages of a reduced gas-oil ratio is practically lost. The curves show a slight advantage in favor of tapered tubing but, considering the accuracy of the measuring instruments, the amount may be considered negligible. It may then be concluded that under the stop-cocking method of production, the gas-oil ratio is practically the same for all sizes of tubing.

3. Positive Control of Production Rate

When the stop-cocking method of producing the wells is practiced, it is sometimes an advantage to have the reduced open flow potential of the small tubing. This reduces the necessity for the manual control of the production rate, as it is doubtful if the open flow rate of the small tubing, which ranges from 20 to 40 barrels per hour, is high enough


AVERAGE FOR 4 REPRESENTATIVE WELLS PRODUCING THROUGH STRAIGHT 2½ INCH TUBING
1 WELL PRODUCING THROUGH 1-1½ INCH TAPERED TUBING
NOTE DIFFERENCE IN PRODUCTION RATES AT WHICH LOWEST GAS OIL RATIOS OBTAINED
CURVES SHOWING COMPARISON OF GAS-OIL RATIOS OBTAINED BY FLOW THROUGH SMALL TAPERED TUBING AND STRAIGHT 2½ INCH TUBING
CUBIC FEET GAS PER BARREL OIL
BARRELS PER HOUR
0
100
200
300
400
500
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

Economy of Tapered Tubing

Disadvantages

and **MARTIN VERHUEL**

Direction of

Shell Petroleum Corporation

to be injurious to a well unless the bottom of the hole is very close to the water level.

4. Reduction of Initial Investment

A very considerable saving of the initial investment can be effected by the use of tapered tubing. The prices and savings are as follows, for a well 3600 feet in depth:

3600 feet of 2½-inch upset tubing at $0.362		$1,303.20
3600 feet of two-inch upset tubing at $0.270		986.40
2400 feet of one-inch BM pipe at $0.092	220.80	
1200 feet of 1¼-inch upset tubing at $0.213	255.60	476.40

It will be seen that the use of a string of tubing consisting of 2400 feet of one-inch and 1200 feet of 1¼-inch effects a saving of $826.80 over the 2½-inch and $520.00 over the two-inch tubing. A further discussion of the saving which may be expected over the life of the field will be given later in this paper.

There are also some disadvantages to be mentioned in the use of tapered tubing.

1. Washing Wells Into Production

On account of the smaller sized tubing it takes a considerably longer time to wash a well into production. This additional time will amount to an average of one day per well. Care must also be taken that excessive pressures are not applied to the casing, or tubing.

2. Killing the Well

In cases of unexpected trouble, the well cannot be killed as quickly as with the larger sizes of tubing and, in extreme cases, probably could not be killed through this tubing without first making connections to establish a suitable back pressure.

3. Possible Failure to Prolong Flowing Life

This is a situation which must be reckoned with although the experience of its use in other fields would indicate that the life would be prolonged at least a sufficient time to return the investment. A general statement of the financial possibilities follows:

Costs

With our somewhat limited knowledge of the decline of bottom hole pressures at present, it is apparently safe to assume that the flowing life of the wells in the East Texas fields will reach a minimum of three years from the present date, if the present rate of withdrawal is not exceeded. Of course this is entirely a function of withdrawal and not of time, and changes in the allowables will necessitate a change in the estimate of the flowing life of the wells.

(Case A)—Assuming that the flowing life of the well will be three years and the rate of interest at 10 per cent per year, and the allowable production 60 barrels per day:

Cost of 3600 feet of 2½-inch tubing	$1,303.20
Cost of 2400 feet of one-inch and 1200 feet of 1¼-inch	476.40
Saving in initial cost	$ 826.80
Interest on $826.80 for three years at 10 per cent per annum	248.00
Total	$1,074.80

Deducting this amount from the original cost of the tapered string of tubing, it is found that there is an unpaid balance of $228.40. Assuming a lifting cost of $0.04 per barrel for flowing wells and $0.12 per barrel for pumping wells would entail a saving of $4.80 per day, per well, or would require a flowing life of 48 days longer with the small tubing than with the large to pay for the small tubing.

Comparing costs of straight two-inch and of tapered tubing strings, as above, the result will be an unpaid balance on the tapered tubing at the end of three years of $321.40. This would require a prolonged flowing life of 67 days to entirely pay out the investment in the small tubing.

In the above calculation, no allowance has been made for the salvage value of the tapered tubing nor for depreciation in the larger sizes. If these items are given a fair value the tapered tubing will about make a pay-out at the end of three years without any prolonged flowing life. On the other hand, if the flowing life is prolonged materially quite a large saving may be made. Assuming the above mentioned lifting costs and allowable production, the saving is $144.00 per month or $1,728.00 per year, per well.

Theory and Design

No attempt has been made in this paper to discuss the rather involved theories of flowing oil wells as this ground has been covered in previous papers. The design also cannot be discussed at this time, as the conditions will undoubtedly change in the later life of the field and a perfect string cannot now be designed to take care of the future conditions. It is, however, advisable to use sizes which undoubtedly will be used in the final string so that only inexpensive changes will have to be made to obtain the greatest efficiency if tapered tubing is found to be beneficial in the prolonging of the flowing life.

Paraffin

Up to the present time no additional trouble has been experienced in the small tubing from paraffin. Both tapered and 2½-inch tubing will paraffin to complete stoppage if produced at low rates of flow. The tapered tubing will reach the stage of stoppage of production in a shorter time than the larger sizes. However, both apparently do not collect paraffin if flowed intermittently at a fair rate of about 20 barrels per hour. The future paraffin troubles are, of course, unknown and may or may not be aggravated in the smaller sizes of tubing.

Southwestern District,
Division of Production,
Tyler, Texas,
April 14, 1932

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Rock Bit Lock

Gumbo Bit
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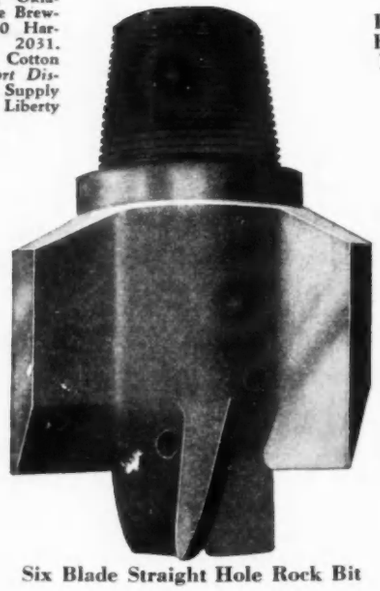

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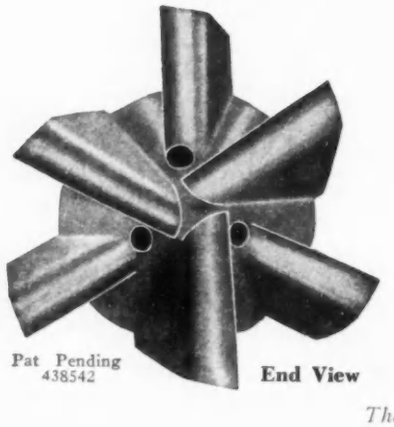

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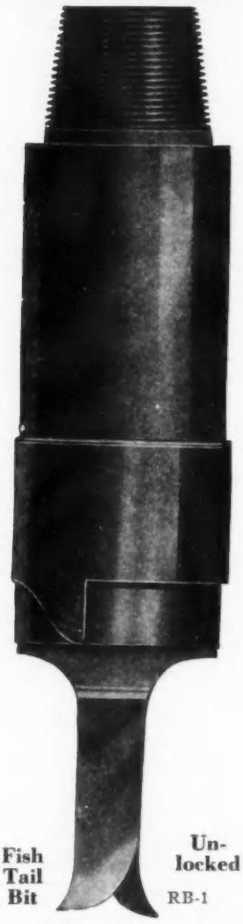
End View



Fish Tail Bit

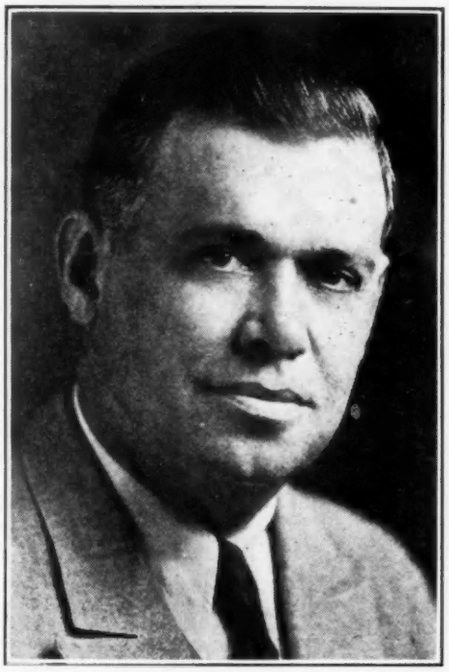
Unlocked
RB-1

TAPERED STRINGS
. . . Must Fit Particular Conditions

West Texas experience shows variable factors make adoption of standard design not feasable

H. M. STAGGS
Atlantic Oil Producing Company, Dallas, Texas

EARLY in 1929, following experiments made on gas lift wells in the Seminole field, Oklahoma, a string of tapered tubing was run in the Hendricks pool, Winkler County, Texas, for the purpose of inducing natural flow. This well had ceased flowing through seven-inch casing. The tubing was of four sizes, ranging from 2½ to four inches. Natural flow of 12,000 barrels of water per day with only a trace of oil started shortly after the tubing was landed. Flow continued practically undiminished for several weeks until the well was abandoned on account of no oil. The gas-water ratio was not over 15 cubic feet per barrel. Shortly after this installation, a considerable number of wells in this field were similarly equipped and are still flowing. Due to high fluid levels, very low gas-fluid ratios were obtained. Measurements on different wells showed gas factors as low as 15 cubic feet per barrel through tapered tubing and 93 cubic feet through straight tubing. One well in this field, which flowed by heads upon completion, pumped an average of 750 barrels of fluid per day for 15 months. After this period, when equipped with tapered tubing, it flowed 2800 barrels daily and is flowing at the present.



H. M. STAGGS

About this time, development was started in Ward County,, where the wells were small and gas insufficient for steady flow through two-inch tubing and some wells refused to flow through two-inch tubing and packer. Experiments with tubing smaller than two inches were started there. The first string was 1¼—1½—two-inch. Later, smaller strings were run and one well is equipped with tubing ⅜—½—¾—one-inch. The well would not flow with tubing one size larger. We were somewhat surprised when the well flowed at the rate of 15 barrels per hour for three or four hours, until the head was flowed off. The gas-oil ratio was 200 cubic feet per barrel. The well made 36 barrels per day, plus 10 per cent water, initially and still does.

One well in this field ceased flowing almost two years ago through two-inch tubing with packer and refused to flow during and after nine days of continuous swabbing. This well was pumped for a week and then equipped with a string of small flow tubing. There was no differenec in production and the well would flow with more than 100 pounds per square inch back pressure on the surface.

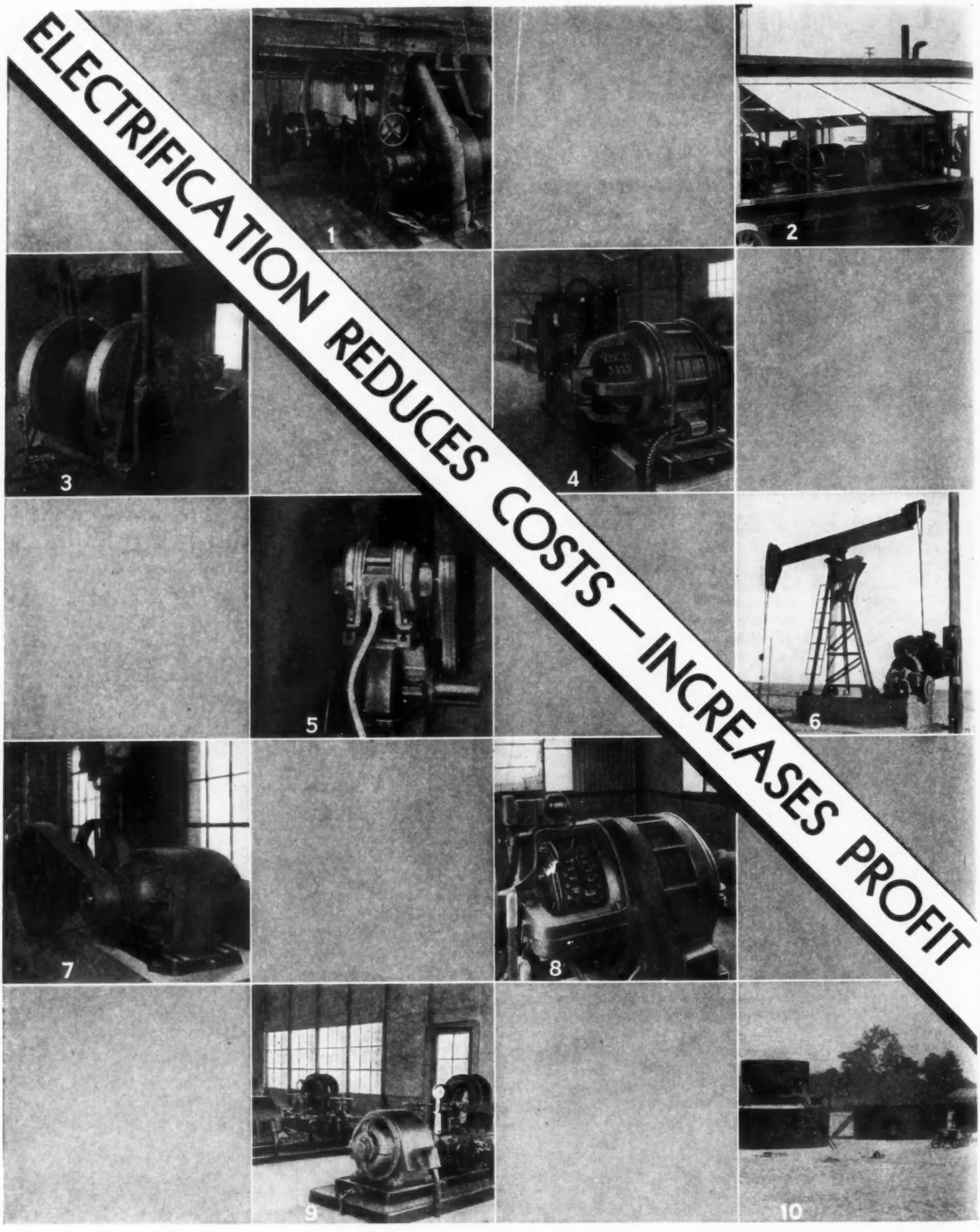
At this time the reservoir pressure was 610 pounds per square inch. The depth to the pay approximately 2450 feet. One bottom hole flowing pressure determination was made in a well producing 40 barrels per day through one—1¼—1½-inch tubing and found to be 137 pounds per square inch. The gas-oil ratio was 700 cubic feet per barrel. The well was then equipped with a smaller string which yielded the same oil output with somewhat less gas and was much more vigorous.

Recently a well 4100 feet deep in Loving County was equipped with a two-stage string, ½ and ¾-inch, and makes its production of 40-45 barrels per day by pulsating flow.

From our experience, it appears that in many cases natural flow can be maintained for long periods after what is known as the "pumping stage" has been reached. Also that the combination of small tubing set close to bottom usually results in reduced gas-oil ratios. The reduction we attribute to higher back pressures and the tubing almost touching bottom. The flow itself is facilitated by less difference in velocities between bottom and top and a high enough velocity at the bottcm to prevent gas breaking through without excessive velocities at the top to increase friction losses. Paraffin deposits, which usually appear in the top 500 feet, may be reduced by carrying surface back pressure or removed by a hand operated paraffin knife.

Conditions affecting natural flow are so variable that the adoption of a standard design of tapered tubing is not feasible. However, this should not discourage its use, since a string reasonably near the correct proportion will give good results. If this first string is not entirely too large, it will be found unnecessary to make frequent changes. When pumping wells are put to flowing, it may require from two to four weeks for the well to adapt itself to the new conditions.

Southwestern District, Division of Production, Tyler, Texas, April 14, 1932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GENERAL ELECTRIC

East Texas Practices New Methods Paraffin

By **W. T. DOHERTY**
Petroleum Engineers,

THIS paper prepared by W. T. Doherty, top and R. C. Buchan, bottom, petroleum engineers of the Humble Oil & Refining Company, discusses methods used for removing and preventing paraffin depositions. The theories advanced on how accumulations occur are deduced from tests and experiences. The characteristics of the crude and the paraffin accumulations, which are intimately connected with the problems, have been analyzed.

The methods suggested and the principles outlined, when applied to paraffin problems, should not only reduce operating expense and waste but should eliminate fire hazards which are inherent to burning paraffin bottoms that have to be removed from tanks.

PARAFFIN—The word itself from past production experience, implies trouble and increased operating costs. The congealing action of East Texas crude when spread over the surface of the ground or equipment, indicates that trouble similar to that encountered in the Panhandle, Crane County and other fields would have to be dealt with. The accumulation of paraffin in tubing and tanks during the summer and fall of 1931 caused many operators in East Texas to expect the same problems in overcoming paraffin. In spite of the apparent forecast of trouble, paraffin has caused a comparatively small amount of inconvenience, due to the fact that causes of the depositions, although not fully understood, were lessened by some change in production methods and handling of the oil produced. Regardless of the fact that many operators are using methods to reduce the cost of paraffin troubles, a common sight in the East Texas field, is the burning of paraffin waste.

It is generally more economical to prevent paraffin depositions than it is to let them accumulate and have to remove them. The manipulation of production practices and methods of handling production in such ways as to prevent trouble are worth while from every standpoint. By utilizing the natural gas pressure and the bottom hole temperature (average 145° F.) to the fullest extent possible, the degree of paraffin troubles can be minimized and in most cases be completely eliminated. With a better understanding of the character and reasons for paraffin depositions, the operators should be able to avoid considerable expense that usually follows paraffin accumulation.

Location and Extent of Accumulations

Paraffin accumulations might be experienced in any equipment through which the oil is moved, but deposits have been mainly in tubing and tanks, with occasional troublesome deposits in lines and gas traps.

Sounds have been run on measuring line in numerous wells to determine the extent of the paraffin depositions in wells flowing which have been adjusted to make the daily allowable production over a 24-hour period. Paraffin was found in "bridges" approximately 10 feet in length between the surface to 750 feet below the surface. The amount and extent varied in various wells, but no paraffin was found in wells from which the production was taken in a few hours.

Several lead lines were broken out and paraffin was found only in thin layers about 1/32-inch thick on the metal. Stagnant areas though, such as bull plugs in lead lines were full of loose, mealy paraffin. One lead line that was of particular interest had been laid between two small hills in such a manner that the oil remained in the pipe after the line was put out of service and at inspection, after 30 days, paraffin was found at the open ends where the oil contacted the air. The only other evidence of paraffin was a thin layer on the inner surface of the pipe and the oil itself was as fluid as normal crude, indicating that it is necessary that the lighter fractions pass off, before paraffin precipitation takes place, due to super saturation.

Most of the paraffin reported in gas separators was no doubt that which works loose in tubing and collects in the gas separators. It is possible that some paraffin forms as a layer on top

Point Ways to of Handling Problems

and **R. C. BUCHAN**
Humble Oil & Refining Company

of the oil when the pressure is released to atmosphere and settles to the bottom when the stagnant oil is agitated by a renewed flow through the trap. If pressure is maintained on the trap while the well is shut in further paraffin precipitation will be prevented.

The accumulation of paraffin in tanks has caused the most trouble and expense.

The rate of accumulation was watched in six tanks in the Kilgore area in which the wells were flowing on choke over a 24-hour period. Table 1 gives an idea of this rate, which indicates an average of one-half inch for each tank that was run.

TABLE 1

	First Inspection			Second Inspection		
Tanks No.	Days in Service	Tanks Run	Inches Sediment	Days in Service	Tanks Run	Inches Sediment
1	8	3	0	28	11	3
2	15	7	4	32	13	7
3	19	9	4	38	16	7
4	23	11	5	42	18	8
5	31	17	6	50	17	9
*6	28	15	12			

*Note: A new well was run into the tank when brought in, probably causing an acceleration of the deposition due to the presence of traces of water and mud.

In areas in which production is made in a few hours the rate of accumulation in tanks is considerably less. Two tanks were checked and the bottom was found to be increasing at an average of two inches in 30 days, or only about ⅛-inch per tank of oil run. This accumulation is of the same general nature and will in time necessitate an expensive tank cleaning job.

Methods Used to Remove Deposits

Two general methods have been utilized to remove paraffin; mechanical and chemical. The mechanical methods constitute putting the precipitated paraffin in a semi-stable suspension in oil with subsequent removal with mechanical scrapers. Claims are being made that most chemicals, so called paraffin solvents, act to stabilize the original or redissolved paraffin solutions.

In order to remove paraffin, it must be put back into solution or it must be made semi-liquid so that it may be moved as a liquid.

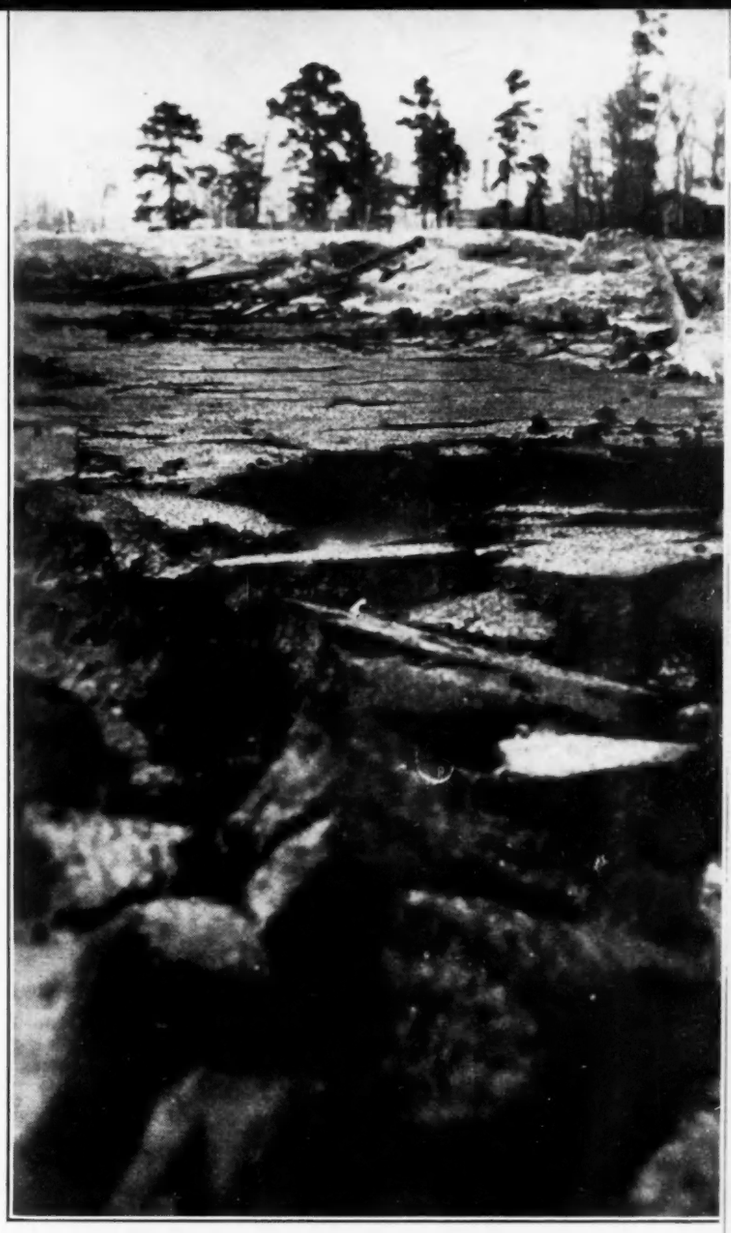
Tubing Deposits

Various methods of cleaning tubing on flowing wells have been used rather successfully in East Texas. The use of gas pressure and the bottom hole temperature of the oil makes this a comparatively easy job.

The simplest method would be that of flowing through the casing long enough to warm up the tubing. The warmed paraffin is then flushed out by flowing through the tubing at a high rate. This method is contradictory to the Texas Railroad Commission's regulations and can not be used at the present time.

Different kinds of paraffin knives and scrapers run on a bailing line through an oil saver, have been used to remove depositions which could not be removed by opening up and flushing out the tubing. This is an effective method and can be made much easier by putting a solvent into the tubing before the cleaning is started. One of the successful solvents used for this work is gas oil, which can be purchased at low cost from any refinery.

One operator had the following experience on a particular well that had been flowing on a 24-hour schedule and had ceased to flow, due to paraffin. During eight hours that were spent trying to penetrate the accumulation using a knife and three joints of polished rods, only 30 feet was penetrated. Twenty gallons of gas oil was poured into the tubing. The knife then went through 700 feet of the paraffin in 1½ hours. A swab was then run successfully, and the well was put back on production. After going through each 100 feet the



RESULT OF CLEANING TANK WITH STEAM
Paraffin has been melted and run to the burning pit. The fluid is beginning to congeal on the surface.

Southwestern District,
Division of Production,
Tyler, Texas,
April 14, 1932

knife was withdrawn and found to be clean, whereas, before using the gas oil it was filled with paraffin in which condition it acted only as would a solid bar.

Various chemicals have been used by producers to remove deposits in tubing with varying amounts of success. An amount, usually five to 10 gallons, of chemical is poured into the tubing and the well allowed to remain shut-in for a period of approximately 12 hours. When the well is opened up the softened deposits are flushed out. The success of this treatment depends on the extent of the accumulation and has been insufficient in some cases; and often the cost of such a procedure is not commensurate with the results obtained.

One operator has claimed unusual success with chemicals which were lubricated into the casing. A small amount used daily has not only increased the tubing and casing pressure and increased the rate of flow through a given size choke, but has arrested the accumulation in stock tanks.

Removing Accumulations from Tanks

Paraffin that has accumulated in tank bottoms should be removed, or serious consequences may result; first, it is impossible to thief or gauge a tank accurately. Second, large lumps of paraffin might be washed loose by flow of incoming production and plug pipe lines. It is necessary to remove paraffin before any of the possible remedies for prevention of accumulation will be successful. The most common methods used for removing bottoms employ removing the BS. plate and scraping with hand tools, or steaming in various ways.

Scraping

To scrape out the bottom, the BS. plate is taken off and by the use of hand tools, which must necessarily be made of nonsparking material, the paraffin is raked into a small sump. After fluxing the paraffin with an equal amount of fresh crude, the mixture is pumped to the burning pit. Labor costs and the value of the oil burned make this an expensive practice.

Steaming

Heating East Texas crude is bad practice under any conditions because, although paraffin might be put back into solution, it will precipitate the second time at a higher temperature. This is in direct contrast to Panhandle crude in which heating causes a more stable solution and a lowering of the congealing temperature. Steam coils in the bottom of tanks would, therefore, more than likely defeat their own purpose.

Live steam has been used in the following ways: (1) melting the bottom and flowing the liquid paraffin to the burning pit; (2) heating all the oil in a tank which contains a high bottom in an effort to redissolve the paraffin in the tank of oil; and (3) heating the bottom with an equal volume of crude and mixing this hot liquid with oil by filling the tank with more crude. These methods, although effective, are objectionable because of (1) cost of steam equipment and labor to operate, (2) danger of cutting oil, and (3) failure of paraffin to stay in solution. Following are descriptions and results of using the various methods.

A bottom can be melted and bled from the tank by applying steam through an open two-inch bleeder line in the line and heating to 150° F., but from one or two inches of paraffin remains which will not gravitate from the tank and must be removed by taking off the BS. plate.

A full tank of oil having a 12-inch solid paraffin bottom was steamed through a bleeder line. The temperature did not rise high enough to melt the paraffin or re-dissolve it. The steam emulsified the oil. The emulsion settled out and had to be bled off before the rest of the tank could be run. This is wasteful and proved to be ineffective in so far as the tank had to be cleaned by removing the BS. plate.

Cleaning tanks with steam and combinations of steam and chemicals has also been tried in the following manner: A foot of production is run into the tank containing a high paraffin bottom. The chemical is dumped in and the complete contents are warmed and agitated by steaming through a two-inch bleeder line. When the contents of the tank reaches approximately 140° F. the paraffin is in solution in the oil and production is then run into the tank. Heating the bottoms with steam and running with the tank of oil does not seem to be an effective method of cleaning, since the paraffin is not kept in solution and settles back to bottom. The danger of cutting the oil is a decided disadvantage, but various chemicals might be used to prevent emulsification.

In general, the use of steam for tank cleaning is highly impractical when costs, nature of the paraffin bottoms and other previously enumerated factors are considered.

Gas Agitation

Some operators tried to use the principle of gas agitation to remove paraffin bottoms, but found it to be almost impossible to break the paraffin loose, due to extreme adherence and fact that gas channels, leaving major portion intact on bottom.

No paraffin trouble has been experienced in lines and traps except in rare cases. Some separators have been equipped with a two-inch blow off line in the bottom, but their use has not been necessary for removing paraffin accumulations.

Methods Used in Preventing Deposits

Even before the advent of the military shut-down of the East Texas field, it was a practice among many producers to pinch in wells in order that they would make a certain amount of production in a 24-hour period. Paraffin deposits were beginning to show up in some wells that flowed as much as 300 barrels per day, or 12.5 barrels per hour. As the prorated allowable was cut down the deposition of paraffin became more pronounced. The critical point was not determined, but it was evident that the wells must be flowed at higher rates so that paraffin would not be deposited in the tubing. Intermittent flow or taking the allowable in short periods of time is no doubt the best method of obtaining production to insure a clean string of tubing. Not only is a flushing action and a higher temperature obtained, but no appreciable increase in the gas-oil ratio results. Nor do the beneficial results of this temperature increase and flushing action stop in the tubing; higher rates of flow through lead lines and separators serve to keep them clean.

Preventing Accumulations in Tanks—Gas-Rolling

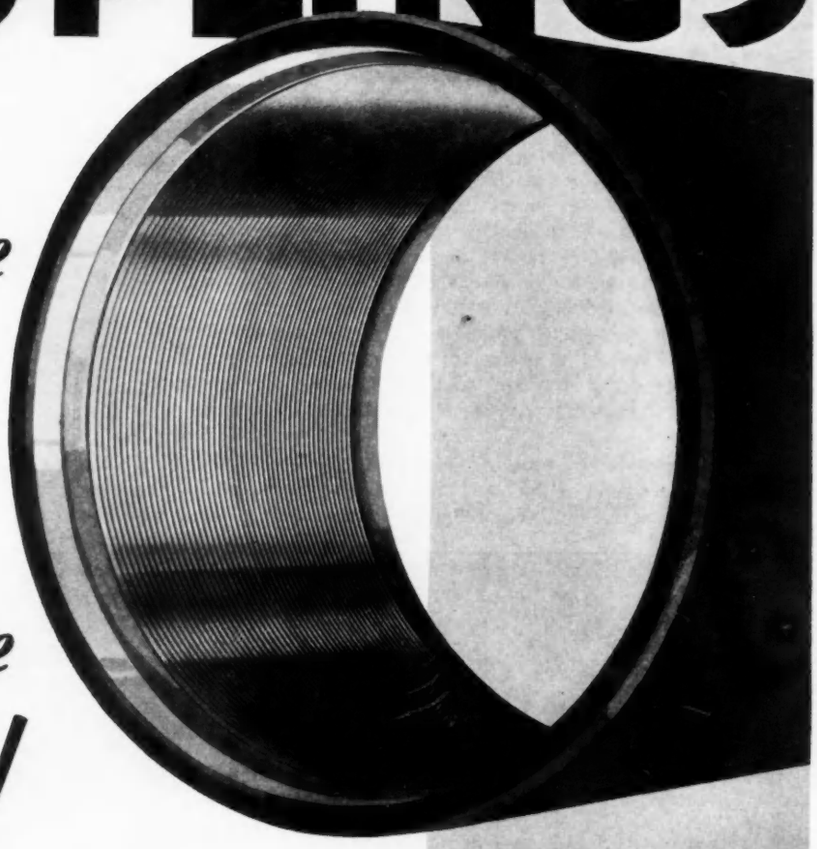
The use of gas agitation as mentioned above is used by several operators to prevent the paraffin from accumulating in tanks. A spider made of perforated pipe connected to a gas line from the separator is laid on the bottom of the tank. The oil is rolled as the tank is filled, causing any paraffin in the bottom to be dispersed and probably partially dissolved or suspended in the oil. The BS. plate was removed on several tanks in which this system had been used for about 90 days. No paraffin was found above the spider.

Such a system depends on (1) sufficient gas pressure to roll (2) constant application is necessary to make it effective; (3) tanks must be allowed to stand in order that the gravity and gauge may be taken correctly; but the system is giving good results wherever the practice is allowed by the pipe line companies.

Recycling Bottoms

The installing of a pump at a battery of tanks to pull the oil left in the tank by the pipe line, and put it into a tank that

COUPLINGS



should be bought with the same care as **PIPE!**

IF any installation of pipe is to be durable, it must be made of durable materials throughout. The usefulness of the whole is best prolonged by the strengthening of those parts subject to the most abuse. Physical stresses and strains and the effects of other adverse conditions frequently concentrate at the joints.

It is clear, then, that couplings ought to be chosen with at least as much care as the pipe itself. Not only should they be of equally good material, but for special reasons they should be identical in character with the pipe to which they are attached. NATIONAL Couplings are made to match the quality of other NATIONAL products. To specify them assures uniformity and long service. Your local supply house carries them.

NATIONAL TUBE COMPANY, PITTSBURGH, PA.
Subsidiary of United States Steel Corporation

USS STEEL

NATIONAL *Seamless Steel* **COUPLINGS**

is filling, has been used with entirely satisfactory results; but the initial cost and the necessity of having power at hand makes this installation costly.

Use of Water

Water in the bottom of tanks gives a flexible bottom and eliminates the formation of a hard paraffin accumulation. Since this method is cheap it has been tried and used with success. The tendency for an emulsion to form is prevalent where fresh water is used, due to agitation of in-flowing oil, but by adding one per cent salt or oil treating chemicals to the water, this is prevented. With this method there is a gradual deposit above the water of soft and mealy paraffin which shows a tendency to hold water in suspension on cold days. It was found that tanks with a water bottom that had been in service for five months contained an average of two inches of this soft mealy paraffin above the water layer. Some of the water was lost after having been held in suspension and going out with the oil, but this loss is very slight and amounted to only five hundredths of one per cent of the oil handled through the tank. The water used in these tanks was one per cent salt solution (sodium chloride). By increasing the amount of salt the tendency to be held in suspension is less. During warmer weather this tendency decreases and the intermediate layer becomes less, due to the fact that summer heat causes a settling of the water.

If water is put into a tank the major consideration is the marketability of the oil in the tank. Since pipe line companies require four inches of clearance below their connection in the tank, the amount of water and the paraffin layer must give this clearance.

Nature of the Oil and the Theory of Paraffin Accumulations

Let us then note the characteristics of this oil with a thought of applying these principles to our production practices and our methods of handling the oil produced.

East Texas crude is classified as a purely paraffin base—high gasoline content crude, but has the usual characteristics of congealing rapidly on the surface, even at moderate temperature, after lighter fractions have evaporated. The evaluation shown in Table 2 does not give an indication of the peculiar property, but various other tests given below tend to disclose the reasons for this phenomena.

TABLE 2

	Per Cent
Gasoline	36.0
Kerosenes	9.5
Gas oil	15.0
Light Lub	9.5
Medium Lub	6.0
Residuum	24.0
Total	100.0

Two glass containers were filled with a sample of fresh crude—one was made air tight and one was left open and both were allowed to stand for seven days. No paraffin was evident

A typical picture of paraffin that has been steamed from a tank and allowed to remain in the firewall.

in the closed sample. A one-half inch layer of paraffin had formed on the top of the oil in the open sample on standing 12 hours, but none had precipitated to the bottom. The same test was run using 2 x 12-inch pipe nipples. The results were the same. After seven days there was no appreciable change noticed other than that made during the first 12 hours. Due to the layer of paraffin on top of the open sample no more evaporation could take place. No evidence of congealing was found in the closed sample.

Two more containers, one open and one closed, were chilled to 18° F. The oil in the closed bottle was still fluid and showed no signs of congealed paraffin. The open bottle had a one-half inch paraffin layer on the top, but none precipitated to bottom.

To substantiate these tests, further work was done in the laboratory. Various samples were prepared from the crude by distilling off different per cents of the lighter fractions of the oil. The residue oil from these distillations was divided into two parts. In one part of each of the samples a very small lump of paraffin, amounting to less than one per cent of the volume of oil, was added and the sample shaken to dissolve the paraffin. Table 3 shows the pour tests on these samples. The congealing temperatures shown are on air tight samples from which no evaporation can take place. After the pour tests were made and the samples were allowed to warm to room temperature, they were poured out on a glass plate to note the congealing while exposed to the air at 75° F.

TABLE 3

Sample	% Distilled Off	Congealing Temperature Before adding paraffin	Congealing Temperature After adding paraffin
1	None	Below 15° F.	Below 15° F.
2	10	Below 15° F.	30° F.
3	20	26° F.	46° F.
4	25	34° F.	54° F.
5	30	48° F.	60° F.

As the amount of lighter ends that are evaporated is increased the congealing temperature is raised and in the presence of excess paraffin the congealing temperature is even higher. In so far as evaporation takes place from the surface, only a comparatively small volume must vaporize to result in a paraffin layer. No practical measure can be given for the surface congealing since this starts almost immediately and the thickness per unit of time depends on the temperature and amount of evaporation from the surface.

To explain the reason heating East Texas crude does not stabilize the paraffin solution by redissolving the paraffin, the following tests were conducted in the laboratory. Several samples of crude were centrifuged and an average of 0.5 per cent of paraffin was precipitated. This sediment was put back into solution by warming the contents of the stoppered centrifuge tube to 110°-120° F. and shaking to redissolve the paraffin. On centrifuging the second time the amount of sediment was increased to one to two per cent. These tests indicate that heat has a detrimental effect since it evidently disturbs the equilibrum of the paraffin solution or changes the solubility.

The paraffin deposited in tubing is usually in the form of a hard mealy accumulation which is free of the lighter ends of the oil. The paraffin accumulation in tanks is viscous and hard enough so that a thief or gauge bob will not penetrate it.

A sample of this precipitated paraffin was observed under the microscope to determine its structure. The mass is composed mainly of amorphous wax with some plate crystals present. There is no evidence of the presence of needle crystals.

In all cases where oil is allowed to stand in such a way as to allow the gases or lighter ends to vaporize, a layer of paraffin forms on the surface of the fluid.

Causes of Depositions

All tests show that paraffin does not precipitate primarily from the body of the oil. Its sedimentation occurs after the gases and lighter ends evaporate.

This holds true to deposits in tubing. When the well is flowing on a small choke, with a high back pressure, a tendency to surge or alternately build up a gas head in the upper part of the tubing is prevalent. The fluid level rises and falls causing a wetting and drying of the tubing. This leads to an accumulative deposition of paraffin. As the oil and gas flow upward through the tubing, a point is reached, theoretically about 1500 feet below the surface, where the oil is saturated and gas begins coming out of solution, resulting in a cooling effect, which is detrimental since it aids the paraffin deposition. Flowing a well wide open usually gives a lower gas-oil ratio than flowing on a very small choke, increases the temperature, and also the increased velocity of the oil is a beneficial flushing action. In other words, available information favors intermittent flow to relieve paraffin trouble in tubing, lead lines and traps.

The contents of Table 3 indicate that the presence of paraffin which was not in the original solution causes congealing to take place at a higher temperature. Paraffin which comes out of the oil is hard to redissolve and acts as a catalytic agent to hasten the deposition of more paraffin.

The bottoms in tanks are not a precipitate from the fresh crude. The bottoms are formed, from all indications, in the following manner: A tank of oil is run and about a foot is left in a stagnant area below the pipe line connection. This oil below pipe line connection is fluid and shows no paraffin sediment, but on standing, the gases and lighter ends evaporate from the surface, leaving a layer of paraffin on the top of the oil which remains intact because of its cohesive properties but when fresh oil disturbs this paraffin, it is broken up, and due to its higher density, sinks to the bottom of the tank. The bottom of the tank serves as a medium against which the paraffin can adhere and pack.

In areas where production is taken in a few hours, no appreciable amount of paraffin is found except in tanks and the accumulation is less than in those areas in which a long flowing schedule is maintained.

Making lease tanks vapor tight has resulted in less weathering of the crude and has proved an aid in combating paraffin troubles.

JOHN A. RITTER

Analysis of Probable For East

By **JOHN A. RITTER**
Sun Oil Company

ATTEMPTS to analyze any phase of the East Texas operation have been little short of guess work. We might even overlook the magnitude of the area involved, the admittedly different types of wells encountered, and make a fairly sound analysis of pumping equipment requirements, if we could by any stretch of our imagination assume that East Texas pumping procedure will be similar to that adopted in other recently developed areas. This assumption is by no means a safe one. Opinions on this subject which have been solicited from various informed sources are as conflicting and divergent as past opinions regarding other phases of the East Texas operation.

The discovery well was drilled in October, 1930. For the first few weeks little development took place. As soon as it became apparent that a real productive area had opened, the development rapidly increased. The following production figures during the year 1931 show this:

Week Ending	No. Wells	Av. Daily Prod. Bbls.	Weekly Prod. Bbls.
January 7, 1931	5	501	3,507
February 4, 1931	11	7,362	51,534
March 4, 1931	34	56,037	392,259
April 1, 1931	125	144,664	1,012,648
April 29, 1931	337	339,777	2,378,439
May 27, 1931	610	350,893	2,456,251
June 24, 1931	975	359,727	2,518,089
July 22, 1931	1,307	504,853	3,533,971
August 19, 1931	1,644	848,398*	5,938,786
September 9, 1931	1,879	171,495	1,200,465
October 6, 1931	2,274	403,884	2,827,188
November 3, 1931	2,797	419,441	2,936,087
December 1, 1931	3,291	402,233	2,815,631
December 29, 1931	3,612	290,885	2,036,195

*Although this figure represents daily average for seven-day period, most of the output for the week was produced in first five days, martial law shut-down of field going into effect on morning of August 17, 1931. The field was shut down under military orders during period August 17 to September 4, 1931, inclusive.

Notice that the production reached a peak of one million barrels per day on August 15 before military action took place. Many wells were producing at rates limited only by the ability of the wells to produce and the ability of the operators to dispose of the production.

Nearly 1100 wells were completed during the first six months.

On August 1, 1931, the development was distributed as follows:

Districts	Units	Wells
Henderson	469	533
Kilgore	571	629
Longview	403	298
Total East Texas	1443	1460

General dissatisfaction existed, resulting in a complete shut down on August 17 under martial law. Production was resumed under military regulations on September 5, 1931.

There resulted a decided increase in the drilling of wells with 172 completions recorded during the week ending October 28, 1931, and 195 new locations recorded during the week ending October 15, 1931. More than 2500 wells were drilled during the last six months of 1931 about at the rate of 14 completions per day.

The production for the year 1931 was 107,727,000 barrels.

The area involved comprises some 100,000 acres.

With more than 4000 wells now completed, the probable ultimate yield from this Woodbine sand area is a subject for controversy. Estimates vary from one billion barrels to two billion barrels.

The same conditions which have brought about differences of opinion concerning every phase of the East Texas operation prevent any definite agreement among operators when considering necessary pumping equipment.

Approximately four per cent of the wells in East Texas are now what we term pumpers. Opinions in connection with other features of the East Texas operation which were made at a time when only four per cent of the development had taken place, have been expressions of hope or despair rather than analysis. We can hardly expect to analyze accurately the pumping requirements at this stage of the development. Past experience has been of little assistance thus far when applied to East Texas. As an industry we are not running true to form. Our habits are changing or have already changed.

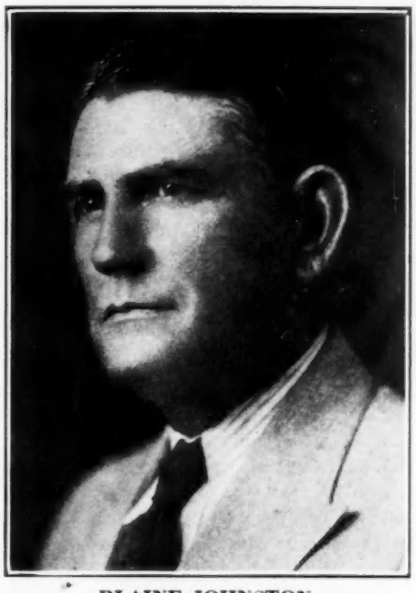
Over a 50-mile radius in East Texas radical changes have been introduced in producing practices. Experienced operators complete large wells using five-inch, or even as small as three-inch oil strings. Wells are being produced through one-inch and even smaller tubing. Some of the large wells are connected to long two-inch flow lines which in turn discharge into miniature separators. Such practices reflect a decided change of conditions or ideas, or both.

Judging by analogy, it is reasonable to suppose that when East Texas wells graduate to the pumping stage, they will face a set of conditions which may possibly require pumping equip-

Southwestern District,
Division of Production,
Tyler, Texas,
April 14, 1932

Pumping Equipment Texas

and **BLAINE JOHNSTON**
Simms Oil Company



BLAINE JOHNSTON

ment as different from the generally accepted ideas of well pumping equipment as the present equipment on flush flowing wells is different from that in general use prior to the East Texas development.

The pumping equipment which was first installed in East Texas is quite similar to that found in other recently completed fields. It may develop that the conditions which seem to warrant a change in the equipment for flowing wells will also cause operators to consider or even adopt changed types of pumping equipment for East Texas.

Example of Flowing Experience

The flowing history to date of one East Texas lease gives further information on these changing conditions. The first two wells on this lease were completed in April, 1931. Two short flow lines were connected to a large separator nearby and the customary hook-up was made favoring large potential gauging. Each well actually gauged more than 500 barrels per hour when tested. Well No. 1 had a tubing pressure of 180 pounds per square inch on one-quarter-inch choke, and well No. 2 had a tubing pressure of 250 pounds per square inch one one-quarter-inch choke. Together these two wells produced at the following rates:

	Barrels per day
Month of May, 1931	1369
June 1 to 15	725
June 16 to 30	685
July 1 to 15	500
July 16 to 31	404
August 1 to 17	340

The wells were shut in on August 17, 1931, at which time the tubing pressure had decreased from 180 pounds per square inch to 95 pounds per square inch on well No. 1 and from 250 to 160 pounds per square inch on well No. 2.

The wells were opened again on September 5 and allowed 225 barrels each per day. The tubing pressure on No. 1 well had increased 95 pounds to 190 pounds per square inch and on well No. 2 had increased 75 pounds to 235 pounds per square inch.

On September 21 the allowable was cut to 185 barrels per day on each well.

A bottom hole pressure of 1159 pounds per square inch was recorded on well No. 1 on September 24. Pumping rigs had been installed on other wells to the east and on September 27 concrete foundations for conventional pumping equipment were installed on each well because it appeared at that time the wells would need to be pumped soon.

The allowable production was reduced to 175 barrels on October 13, 1931; then to 150 barrels on October 29, and further to 125 barrels on November 7.

By November 11 the bottom hole pressure had increased 40 pounds on well No. 1 to 1199 pounds per square inch.

On December 11 the allowable was cut to 100 barrels and during this month some operators began to shut in their wells on Sunday. By this time it was apparent that these wells would continue to flow, so no further work was done toward installing pumping machinery. The large flow lines were reduced and one separator was used to serve three wells.

On February 4, 1932, the bottom hole pressure was found to be 1233 pounds per square inch, an increase of 34 pounds, since November 11 when last measured. The allowable was reduced to 75 barrels on February 5, 1932, and further to 72 barrels on March 16, 1932.

Well No. 1 now has a tubing pressure of 205 pounds per square inch.

Well No. 2 now has a tubing pressure of 250 pounds per square inch.

Well No. 3 now has a tubing pressure of 230 pounds per square inch.

Well No. 4 now has a tubing pressure of 230 pounds per square inch.

Last August everything indicated that this lease would need pumping equipment soon. None has been installed and these wells will now probably continue to flow for some time.

Should Study Pumping Equipment Now

Low rates of production tend to a more effective use of the formation gas in pumping wells just as they do in flowing wells. Is there any sound reason for disregarding reservoir pressures; gas-oil ratios, and similar factors when a pool or field reaches the pumping stage? When operators are regulated so that definite quantities of oil can be recovered from flowing wells, should we expect to produce more than these quantities from pumping wells? The same principle should apply regardless of the method used to recover or lift the oil, if the natural forces in the formation are to be utilized to the best advantage. Reliable data should be sought during the flowing life of the East Texas reservoir in order to assist in the proper selection of pumping equipment, if and when pumping becomes necessary.

A rate of withdrawal which permits of proper gas-oil ratios under pumping conditions would seem desirable if the gas is to be conserved and the reservoir energy utilized efficiently.

We can expect sufficient gas under such operation to

permit the use of the conventional oil field gas engine equipment.

If we assume that the physical condition in the East Texas pool will continue relatively the same when the reservoir pressure in certain sections becomes so low that wells will no longer maintain their natural flow there is every reason to support a pumping program which will permit uniform withdrawals at rates which result in economical gas-oil ratios. Such views are receiving support on all sides. There is a growing conviction that legislation will undertake to compel the enforcement of such measures.

At this point the authors referred to the resolution on Unit Operation passed at the Chicago meeting of the A. P. I. last November and to order of the Texas Railroad Commission pointing out that too rapid withdrawal adversely affects ultimate recovery from the field.

Underlying "ratable production" are principles both sound in theory and ethical in practice. Support for such principles of operation is increasing tremendously both within and outside the industry.

It seems therefore that in any analysis of East Texas pumping requirements very serious consideration should be given to the probable adoption of such operating policies by the industry.

If such principles are accepted the application of pumping equipment to a well may be regarded as an artificial means by which we can permit the natural forces in the reservoir to continue their action in an efficient, normal, and undisturbed manner and not as a method by which we might temporarily and wastefully rejuvenate a local area at the expense of neighboring properties. Pumping equipment can be selected with either thought in mind.

Three types of wells appear to be developing in the East Texas field:

1. Along the west side are almost 50 wells which are producing some water.
2. The east side of the field has developed approximately 170 pumping wells.
3. Throughout what we will term the heart or center of the field, we find neither of the above conditions.

By "west side" is meant that part of the field where there is evidence of a water drive. Water has appeared in wells following in general a line representing the 3300-foot contour. There is some evidence of a porous sand condition in wells making water which is permitting the water drive to maintain bottom hole pressures even when wells make as much as 80 per cent water. Such wells flow naturally when making as high as 60 per cent water and are very light pumpers under present conditions. The fluid stands high and the pumping lift is low. Enough gas is present to assist materially in pumping. Any conventional type of pumping equipment which has been used in other fields might be installed here. Selections may be made from a wide variety of types which need not be discussed here since all successfully accomplish the same purpose.

The following is the history of one East Texas water well: This well was completed and tested dry at a depth of 3708 feet. It was drilled deeper and completed at 3718 feet (—3329 feet) during military shut down, August 23. It gauged 219 barrels of oil in three hours.

On September 5 the casing pressure was 260 pounds per square inch, and the tubing pressure 160 pounds per square inch on one-half-inch choke through 2½-inch tubing. Water developed on the second day while the well produced its 225-barrel allowable.

On September 24 the well went dead. It was swabbed back and a bottom hole choke was installed. The well continued to flow with few interruptions until November 29 when tubing was pulled and the well placed on the pump.

Since December 1 it has made its allowable in approximately 12 to 15 hours pumping.

The 2¼-inch working barrel is set at 2500 feet, the pumping stroke is 54 inches long, and the rig runs 24 strokes per minute. A standard 30 horsepower, electric motor operates the well which has a metered demand of nine kilowatts. Consumption per month is approximately 2500 kilowatt hours, and the total fluid handled is about 30 barrels per hour; 80 per cent of which is water.

Many improvements or refinements are noticeable in the types of rigs which will probably be used along this area. Attention is being given to beam design which permits of convenient and reliable lubrication at the pitman bearings, saddle bearings, and rod hanger. Essentially straight lift motion is secured for the polish rod on long stroke rigs in various practical ways. Noise is being eliminated, friction reduced and appearances improved.

The increased use of alloy steels and more precise workmanship is noticeable. Counterbalances are almost universally a part of the equipment offered.

We expect to see the adoption of steel equipment for tubing boards and rod boards on pumping wells.

Wells in this area will probably head when rods and tubing are being pulled and some kind of oil saver should be used on each operation to decrease the fire hazard.

The east side of the field has already developed pumping areas. Here the sand is usually thin and tight. Consequently some of the wells have had a relatively short flowing life. There have been as many as 170 such wells reported a. times. The western edge of these pumping areas appears to be receding east under the present withdrawal. Wells are reported to be flowing their 75-barrel allowable in March, 1932, which produced only on the pump when they were completed six months ago.

Engineers estimate that wells in this area will cease flowing naturally when the net or available useful bottom hole pressure falls as low as 800 pounds per square inch.

There are indications of paraffin in pumping wells and due to tight sand conditions and the probable absence of water, we may expect wells in this area to be capable of producing only small amounts of oil even when tubing is installed near the bottom of the well, and the fluid head in the well is removed by pumping. Lighter types of pumping equipment or central powers may be practical for pumping along the east side of the pool.

A large part of the central section of the East Texas field is under-laid by a relatively thick and porous sand. It is generally conceded that it will be some time, under anything approximating present withdrawals, before much pumping will be necessary in this section. We can therefore leave a discussion of the probable requirements for this portion of the field to our future meetings.

The information we have from wells that are now pumping indicates that small engines or motors will probably be sufficient to lift the allowable production. The gas being in solution, even in wells that are pumping large amounts of water, will assist in lifting the fluid.

Many operators have on hand small engines and motors which they will want to use. At some time during the life of the field, pumping conditions may necessitate large prime movers. With this in view each operator should have in mind a foundation block to accommodate any change in size. This will save time and expense if it becomes necessary to make such a change.

It is possible that a common or plain working barrel and cups will pump East Texas wells successfully. The absence of sand to date in pumping wells indicates this.

Substantial band wheel powers and jacks may take care of most of the pumping wells on the east side of the structure. Individual jacks, or units with a small electric motor, or gas engine, are receiving consideration.

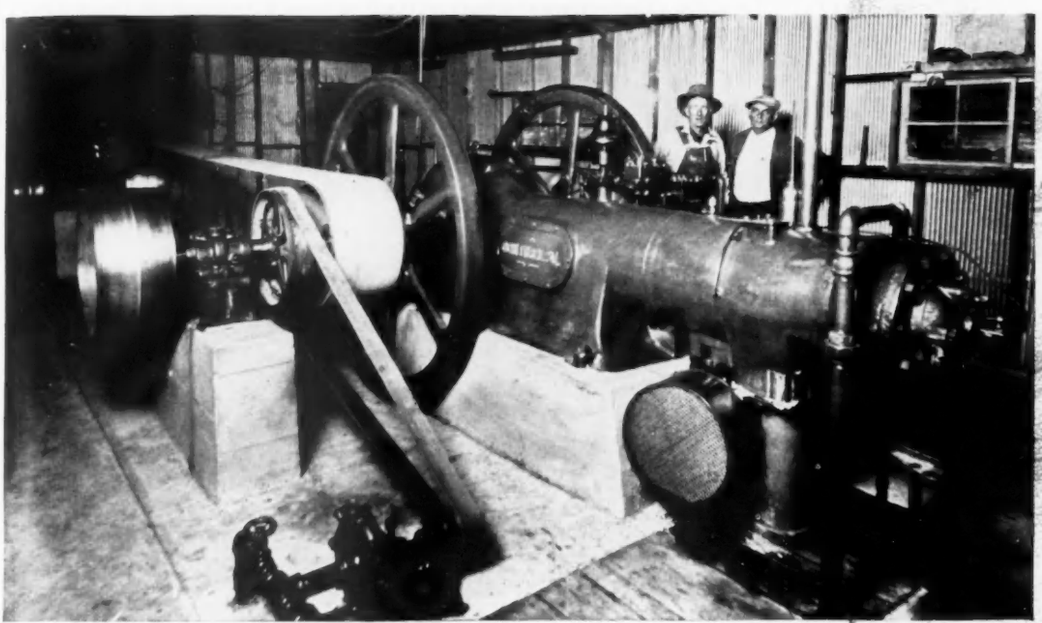
Many companies have on hand electric motors which

ECONOMICAL POWER

WITH

FAIRBANKS-MORSE

CONTINENTAL OIL ENGINES



40 H.P. Fairbanks-Morse Continental oil engine with Continental 24 RW Reversing Countershaft on beam well in Stafford Co., Kansas

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they could use. Pumping equipment driven by electric power is very satisfactory for operating leases. The rate structure in East Texas will have an important bearing on the use of electric power for pumping.

It may develop that some of the more recent methods of pumping will prove adaptable to East Texas conditions.

One device called "the plunger lift" uses a string of tubing which has been reamed to remove all burrs and roughness and has a valve at the bottom. A plunger, approximately 12 inches long, fits this tubing loosely and travels the entire length of the tubing, discharging the fluid at the surface. The plunger then drops back to bottom for another load. Formation gas, or externally applied gas or air pressure, is the lifting medium which drives the plunger.

Another device offered uses one working barrel located approximately half-way down the well, and a second working barrel placed at the bottom of the tubing. A packer just below the first barrel seats against the casing. An outlet is provided below the upper working barrel which allows the lower barrel on the up-stroke to discharge fluid into the casing above the packer. On the down-stroke the upper working barrel discharges the fluid at the surface.

In the absence of bull wheels on standard rigs, several friction-clutch portable hoists are available which can be anchored to the derrick floor and driven by a chain from a sprocket on the band wheel shaft. Such equipment may be moved around to service adjoining wells. The use of these hoists would eliminate a reversible clutch on the gas engine. Where road conditions and lease locations permit, winches mounted on trucks or trailers and driven through a power take-off from the truck motor can be used. Small hoists are offered with individual motors mounted on skids or on special trailers. Different parts of the field will require different types.

Refiners Association Adopts New Gasoline Specifications

The proposed specifications for smummer and winter types of motor fuel which were passed for approval to the Board of Directors at the twentieth annual convention of the Western Petroleum Refiners Association, last week, as proposed, do not differ greatly from current U. S. Government motor fuel specifications, the differences being the retention of initial boiling point, gravity and end point specifications. Although the refining industry has for years been trying to get away from such specifications and current Federal requirements take no cognizance of them, the membership of the association expressed the view that such government specifications are not sufficiently definite to cover the requirements of the majority of refiners in the Mid-Continent area. The W. P. R. A. specifications were drawn up chiefly to meet a sales situation and are not intended to reflect scientific accuracy.

The specifications cover two grades of gasoline, summer (58-60 gravity) winter (60-62 gravity) which difference in vapor pressure from 10 pounds for the summer grade and 12 pounds for the winter type of fuel. Three grades of octane rating are proposed—under 57 octane; 57 to 65 octane and 65 octane and above. The gasoline for both winter and summer are to have an end point of 420° F. and with initial boiling point of 140° F. for summer grade and 100° F. for winter. Other specifications are identical with Federal requirements.

The specifications will not influence refinery operations or consumption of crude oil. They reflect present sales practice and requirements and tend to standardize the gasoline production of refineries in the Mid-Continent area where the jobbing trade and sales departments have been having difficulty with the lack of definiteness or complete understanding of present day standard government motor fuel specifications. The difference in volatility permitted between the winter and summer grade permits the use of a little more natural gasoline or similar light blending medium during the winter months, but this is also true of government specification motor fuel. The refiners, sellers, jobbers, and others in the Mid-Continent section find, apparently, a complete understanding of former motor fuel specifications and prefer them to the newly adopted government means of interpreting motor fuel characteristics.

The Unit Plan *and* Straight Holes

IF the "new conception" proposed by the American Petroleum Institute, receives universal adoption, and the oil producer is held to be entitled to that part of the oil in a pool which lies beneath his own land, this will be made possible only by the advancement of our knowledge in determining and drilling straight holes.

A few years ago stories of the deviation of drill stems to the point where the bottom of a hole actually was beneath a neighbor's lease were common, because instances were had where the drill stem in one well actually touched the drill stem on an adjoining lease. Such a condition need no longer obtain.

Many companies permit a deviation to a five-degree limit but do not require directional survey. It is interesting to note that in a hole of 4000 feet depth with an average deflection of five degrees the horizontal drift may be as much as 349 feet and the bottom of the hole may be located within a circle the area of which is 8.8 acres.

Straight hole drilling is possible within closer confines than has been the case in the past. Well surveys have made it possible. The company that does not watch its drilling wells closely for deviation will pay for its carelessness in the future.

CALIFORNIA FIELDS

Kettleman Hills Wells Due For Mid-Year Completion

Propose Drilling That Will Require Offsets

BRAD MILLS, *Staff Representative, Los Angeles, California*

File Injunction Suit To Halt Gas Waste

Los Angeles.—The State of California, through D. H. Blood, director of natural resources, has filed suit in the Superior Court at Los Angeles for an injunction to force operators and landowners in the Dominguez field to stop the gas waste which has reached serious proportions. The defendants are Burnham Exploration Company, Union Oil Company, Shell Oil Company, Associated Oil Company, Wells Fargo Bank and Union Trust Company, Dominguez Estate Company, Frances J. Hellman, I. W. Hellman, III, Frederick J. Hellman, Holly Development Company, O. W. Childs Estate Company, Carson Estate Company and other operators and landwoners.

Production at Dominguez during the first part of the week was nearly 34,000 barrels. This represented an excess of more than 20,000 barrels above the allotment of 13,620 barrels. Gas waste has been estimated at 25,000,000 cubic feet daily.

The suit was filed to force operators to the gas waste statutes which were put on the books more than two years ago, and the case is similar to those filed against operators at Santa Fe Springs, Long Beach and Kettleman Hills.

Kettleman Plan Would Mean Drilling of Offsets

Los Angeles.—The Kettleman North Dome Association is considering a plan of development which may require the drilling of several offsets to wells on fee land. In the drilling of the minimum number of wells, the association is anxious to make each one count most, but is also desirous of drilling some of its leases which may be forced to the background temporarily by the necessity of offsetting on tracts which ordinarily could await their turn. Fee land activity has been a source of worry to both the Kettleman North Dome Association and Standard Oil Company of California, but on the northwest flank of the structure, the fee land operators claim that they have not been the aggressors. Although under strict control, petty squabbles are always brewing under cover, with the fee land operators, Standard Oil Company of California and the Kettleman North Dome Association parties to the differences.

Santa Fe Edge Wells Hurt By Inside Open Flow

Los Angeles.—Leaseholders on edge tracts at Santa Fe Springs have awakened to the fact that wells flowing wide open on inside leases are draining the field of gas which will be necessary to produce these edge leases in the future. Many wells are shut in on the outside leases to conform with curtailment requirements, but most of the townlot leases are being produced at a rate out of line with allotments. The fact that the outside leases are larger tracts than the townlot leases makes it possible to shut down the edge wells while producing the ones nearer the center of the field. This gives certain leases their correct allotments by flowing only the wells which offset the townlot producers. The remoter leases will eventually suffer from lack of gas, evidence offered at a recent gas hearing indicated.

Public Land Reopening Causes Rush in California

Los Angeles.—A rush to file on oil and gas prospecting permits in various Southern California districts followed the reopening by the government of public lands which were withdrawn by the Department of the Interior some time ago. The order reinstating these public lands for oil and gas exploration was effective April 4, and several thousand acres of more or less promising land was filed on during the first few days. The filing was particularly heavy in Ventura and Santa Barbara counties, where some drilling activity may follow such action. Several districts embrace structures which have been looked on with favor, and some anticlines offer some promise. The withdrawal of these lands naturally caused the average operator, who had been considering them, to want them all the more. The result has been a coveting

Getty Proposes Reorganization Plan for Richfield Company

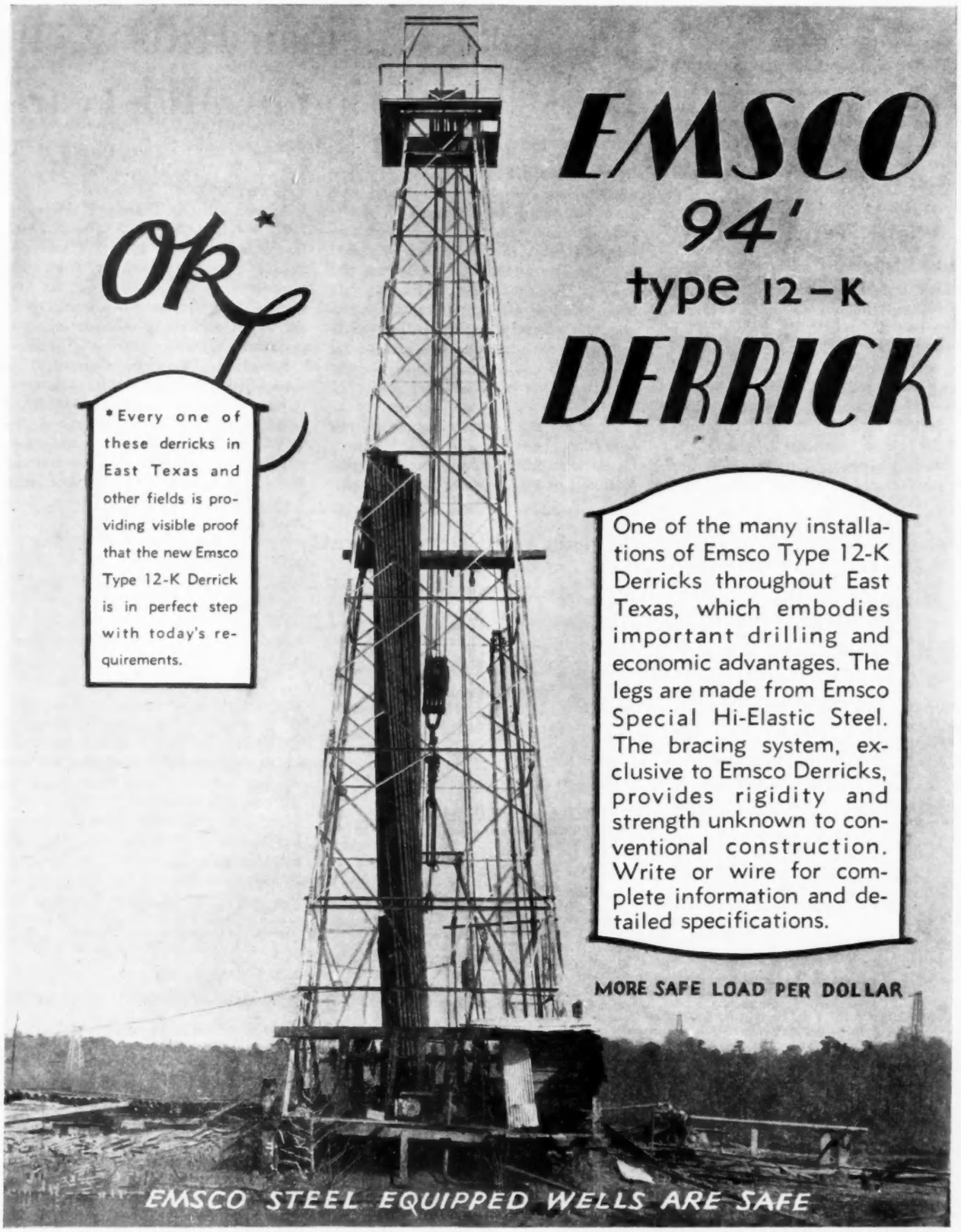
Los Angeles. — Reorganization of Richfield Oil Company of California has been proposed by J. Paul Getty, president of George F. Getty, Inc., who has just sent a letter to the bondholders' protective committee. The letter is the formal presentation of a plan which has been expected for some time, and which was outlined after the acquisition of controlling interest in Pacific Western Oil Company by the Getty interests.

Getty proposes to foreclose on the mortgage on Richfield Oil Company and Pan American Oil Company properties, according to the plan submitted, the assets to be sold at an agreeable price to a new company to be organized as Richfield Oil Company of Delaware. Richfield and Pan American bondholders would be offered 10 shares of Class A common stock with a par value of $100 for each $1000 of assets under the bonds, the value of the assets to be agreeable to both the bondholders and the Getty interests.

The unsecured creditors would be offered one share of Class A common stock for each $100 of assets not covered by the mortgage, the value to be agreed upon by both interested parties.

The question of immediate working capital will be settled through the issuance of between $2,000,000 and $3,000,000 of 6½ per cent first mortgage 10-year bonds with an adequate sinking fund. The Getty interests would buy these bonds for cash at 92. The bonds would be bought only after 75 per cent of the bondholders in both of the present existing companies have agreed to the exchange outlined.

As a return for the purchase of the 6½ per cent bonds and a contract for the reorganized company's crude supply, Getty would get Class B. common stock to the extent of 23.2 per cent of the total amount of outstanding stock, both A and B. Voting control would be vested in Class B stock, this stock having four votes, against one for the Class A stock.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of many permits which ordinarily would not have been filed on.

The new ruling which requires the unit operation of new pools found on these public lands has met with little opposition, as the average operator would gladly develop a good oil field under the unit plan—or any other reasonable plan.

Continue Search Between McKittrick-South Belridge

Taft, Calif.—The search for small intermediate fields between the McKittrick and South Belridge fields will be continued by T. H. Purman, independent operator who has been active in the district for some time. A location has been made on the northeast quarter of Section 28-29-21. A small amount of oil has been developed nearby, but commercial production has not been found.

Several Kettleman Hills Wells Due Completion by Mid-Year

Coalinga, Calif.—Of the 15 active wells at Kettleman Hills, several are nearing the completion level and will be brought in before the middle of the year. It formerly required a year and more to reach the Temblor formation, but the average drilling time to the top of the producing formation has been reduced to a fraction of the former period. Several of the drilling wells and wells to be started are located on the edge of the structure and will help to determine the producing limits of the field.

Standard Oil Company of California has rigged up No. 278-33-J, a North Dome test which was drilled to 6663 feet, and will deepen the well for completion. This test was drilled to the top of the Temblor and shut down in February, 1930.

Associated Oil Company drilled to 7707 feet in Whepley 3, North Dome test, and will ream to run a string of casing over the Temblor zone. The Bentonite marker was found at 7092 feet. This well was drilled to its present depth with only a short string of conductor pipe.

Petroleum Securities Company has made little progress in its efforts to remove the drill pipe from Burbank 1, Middle Dome test which was drilled to 9332 feet and tested above the plug at 9208 feet. The drill pipe has been removed to around 5175 feet, but other

California Field Developments

Completions

Company, Well and Location—	Bbls.	Depth
Dominguez—		
Union Oil Co., Callender 28	2300	5092
Goleta—		
General Pet.'s James Permit 1	*	2047
General Pet.'s Sands Permit 1	*	2050
Long Beach—		
Tom Cannon, Harriman-Jones 2	200	6032
Hancock Oil Co., Signal 21	350	5505
Jergins Syndicate, No. 6	400	5105
Ventura Avenue—		
Shell Oil Co., Taylor 72	1600	5700

New Operations

Dominguez—
Republic Pet. Co., No. 1, 34-3-13.
McKittrick—
T. T. T. Purman, Cymric 2, 28-29-21.
Orange County—
Orangethorpe Corp., No. 1, 32-3-10.
Round Mountain—
A. S. Mayes, No. 2, 6-28-29.
California Western Oil Co., No. 9, 7-28-29.
Tulare County—
Western Natural Resource Corp. and E. B. Guess, No. 3, 7-23-2?
Ventura Avenue—
Shell Oil Co., Taylor 73, 29-3-23.

Wildcat Drilling Report

(Wells shut down not included)

NORTHERN CALIFORNIA

KERN COUNTY

	Feet
Buttonwillow—	
Graham-Loftus Oil Corp.'s Carmel 1, 20-27-22, co to bottom, will make production test	6620
General Pet.'s Morris 1, dr shale with gas showings	3100
Milham Exploration Co.'s Kern 10, 5-28-23, will shut in for present	2690
Whitaker 1, 8-28-23, will shut in	2675
S. P. 21-7, 7-28-23, dr shale 2520 ft, will test and may deepen	2520
S. P. 14-9, 9-28-23, rigging rotary to test gas zone	....
Wilshire Oil Co.'s Salisbury 1-A, 7-29-24, co through tubing, plugged to 4650 ft, may test upper showings first	6990
Blackwell's Corner—	
Pasadena Oil Corp.'s Lincoln 1, 15-26-19, rigging cable tools	100
Devil's Den—	
Cumberland Oil Co.'s Cumberland 2, will sd	3226
McKittrick—	
T. H. T. Purman's No. 1, 22-29-21, dr shale streaks oil sand	3965
Welport Oil Co.'s No. 8, 26-29-21, 8⅝-in cas cmt 1050 ft	1300
Semitropic—	
Fullerton Oil Co.'s Core Hole F, coring shale	525
Wheeler Ridge—	
Barnsdall's K. C. L. 1, 15-11-20, dr shale and sand	5300
Descanso Oil Co.'s Tejon 1, 31-11-19, will suspend	2750

SANTA BARBARA COUNTY

Carpenteria—	
Texas' Community 3, 33-4-25 new lcn	....
Goleta—	
General Pet.'s More 1, 21-4-28, rigged to deepen	4533
Los Alamos—	
Barnsdall's Careaga 1, 31-8-33, dr shale and hard sand	3550
N. S. Wilson's Orena 1, 2-7-33, dr shale	3606
Santa Maria—	
O. C. Field Gasoline Co.'s Norswing 1, 5-9-33, will discontinue	5568
Western Gulf's Bradley 1, 5-9-33, dr shale and hard sand	8735
Santa Rosa Island—	
Standard Oil Co.'s No. 1, bldg roads to lcn	....

VENTURA COUNTY

Conejo—	
American Oil Co.'s No. 1, 33-2-20, co to deepen	1590
Hopper Canyon—	
Bardeen Pet. Co.'s Lankershim 2, 13-4-19, dr hard brown shale	1300
Ojai—	
A. N. Macrate's Cosmon 1, 27-4-23, rigging rotary	....
Oxnard—	
Magu Synd.'s Utt 1, 17-1-21, dr rocks and hard sand	5815
Piru—	
Torrey Ventura Oil Co.'s No. 1, 32-4-18, dr shale and streaks of sand	1200
Rincon—	
Woodrow Oil Co.'s Lomas 1, 4-3-24, rigging rotary	....
South Mountain—	
H. H. Bell's Lemon 1, 22-3-21, sd	2460

MISCELLANEOUS

Kings County—	
Magee & Stone's No. 1, 34-34-22, dr shale and hard sand	3666
Knudsen & Schmidt's Avenal 1, 36-23-17, co	5570
Tulaco Oil Co.'s No. 1, 17-22-22, rig completed	....
H. C. Turnham's No. 1, 23-20-22, new lcn	....
A. M. Brown's No. 1, 18-22-19, rig completed	....
Eagle Oil & Gas Co.'s No. 2, 15-23-20, rigging rotary	....
E. B. Guess' No. 3, 12-23-22, rigging rotary	....
Tulare Basin Gas Co.'s Goodfellow 2, 2-23-19, grading for rig	....
San Luis Obispo County—	
Emerich Oil Co.'s No. 1, 15-28-12, dr hard sand and shale	1966
Holland 1, 22-32-22, sp this week	250
Kent and McDonald's No. 1, 3-32-22, dr shale and hard sand	2635
Tulare County—	
Gravity Exploration Co.'s Buck 1, 11-24-23, sd	930
Yolo County—	
Pacific Northern Gas and Oil Co.'s Guinda 1, 23-12-3, deepening	2120

mechanical difficulties have combined to place the well in very bad condition.

Standard Oil Company is drilling at 7625 feet in No. 6-29V, Middle Dome well, which was shut down for a short time to await certain certain developments, and may obtain the first commercial production in this part of the field.

Four Wells Near Production Depth in West Coyote Field

Los Angeles.—The drilling of several wells in the West Coyote field by Standard Oil Company of California is one of the most interesting current developments in proven fields in the Los Angeles basin. Of the five active wells, four are nearing the producing zone which was found about two years ago below 5800 feet. Murphy-Coyote 110 has already reached the oil sand, but the completion depth will depend largely on the change in formation. A string of 8⅝-inch casing was cemented at 5480 feet in this well. Shutoff strings were also run at about the same depths in Murphy-Coyote 108 and Murphy-Coyote 109.

Emery 50 was drilled to 5210 feet and a string of nine-inch casing cemented at 5206 feet.

The discovery well at 5830 feet was a very good producer, and there is no reason to doubt a similar production from the other tests. The company has not divulged its plans, but is expected to develop a production which may be used as needed. The field is almost completely controlled by Standard Oil Company, and production has been coming from a shallow zone above 4000 feet. A large quantity of gas was stored in the upper zone over a long period.

Interest in South Dome Revives After Two Years

Coalinga, Calif.—Leasing of scattering acreage on the South Dome at Kettleman Hills has revived interest in a section which has seen no activity since The Ohio Oil Company drilled and abandoned a deep test more than two years ago. The most recent entry into the district is the Armadillo Oil & Gas Company, which was organized to develop holdings on Section 24-24-19, along the south end of the Middle Dome. The connection between the South and Middle Domes has long been a puzzle, but it now looks as if the South Dome and Lost Hills may be more closely related than the Middle and South Domes.

OKLAHOMA FIELDS

Southwest Oklahoma City Area Becomes Active
Oklahoma City Allowable 101,137 Barrels

FLOYD SWINDELL, ***Staff Representative, Tulsa, Oklahoma***

Test Wilcox Extension In Oklahoma City Field

Oklahoma City.—Phillips Petroleum Company and Shell Petroleum Corporation were drilling plugs in Berg 1, NE NE SW, Section 26-11n-3w, slightly over a half-mile from the nearest Wilcox sand production in the southwestern portion of the Oklahoma City pool. The test is located about midway between what is known as the South Wilcox area and that of Sections 22, 23, 26 and 27-11n-3w, which is developing into one of the most active portions of the pool. Seven-inch casing was cemented at 6412 feet after drilling to 6573 feet in Wilcox sand.

Two Producers Added in Fish Pool, Seminole Area

Seminole, Oklahoma.—Two completions were added to the Fish pool when The Texas Company's Eliza 2, SE NW SE Section 19-7n-8e, produced 572 barrels the first six hours from 29 feet of Wapanucka sand topped at 3078 feet, and Empire Oil & Refining Company's Fish 3-B, NE SW SE Section 19-7n-8s, gauged 535 barrels in eight hours from the same formation at 3077 to 3100 feet. Both wells are producing from the phase of the Wapanucka limestone locally known as the Cromwell sand.

Pontotoc Field Given Class A Proration Rating

Seminole, Okla.—The new Conservation pool, Pontotoc County's most active area, is to be prorated as a Class A pool beginning April 18 and efforts will be made to restrict drilling to conform to the market demand under a Class A rating. Complete recommendations of the proration committee, which is composed of Mr. Osborne and W. A. Delaney, independent operators in Ada, and R. F. McArthur, Barnsdall Oil Corporation, have not been announced but it is understood that several rules new to Oklahoma proration will be asked. The new order grants a daily allowable of 370 barrels based on a potential of 629 barrels for the period April 18-30. Allowable is estimated on a 20-barrel exemption rule with production in excess of that amount curtailed 50 per cent.

Barnsdall Oil Corporation's Hart 1; Marrs and Myers' Myers 1; Fleetborn's Brown 1; Dixie Petroleum Company's Jackson 1, and Pioneer Petroleum Company et al's Bayne 1, all of which are recent completions, are affected by the order. Conservation Oil Company's Walker 1, an older well, is also included in the group of wells which are to be curtailed.

Oklahoma City Southwest Wilcox Area Active

Oklahoma City.—The new southwest Wilcox sand aera is rapidly becoming the most active spot in the Oklahoma City pool. Ten wells have been completed for initial gauges ranging from a few thousand to better than 25,000 barrels. Of the total of 38 tests drilling or shut down waiting on cement to set, eight are in the sector. During the past two weeks eight new locations have been made, five of which were staked during the week just ended.

From the information gained in the completion of 10 wells it appears that relatively small wells will be had in the north half and the north half of the southwest of Section 22-11n-3w and a major portion of the southeast quarter of Section 15-11n-3w. The five completions in the area around Phillips Petroleum Company's Egermier 1, SW SW SW Section 23-11n-3w, have all been good wells and Berg 1, an outpost well between the Egermier and the south Wilcox zone, probably will yield in excess of 20,000 barrels on its initial gauge, which it should be prepared to take within the next few days.

McPherson County Test Will Deepen to Wilcox

McPherson, Kansas.—Darby Oil Company will seek Wilcox sand production after failure to find commercial production in the Viola limestone in Kaegi 2-B, SW SW NE Section 20-19s-1w, on the western edge of the Canton area in eastern McPherson County.

The Canton sector, which is an eastern extension of the Ritz-Docker-Garrett area, has produced some large gas wells in the Mississippi chat horizon and a few wells have been completed for small oil production in the Viola limestone.

Oklahoma City Allowable Set 101,137 Barrels Balance April

Oklahoma City.—The Oklahoma City pool is to have a daily allowable of 101,137 barrels for the last half of April as indicated by purchaser's nominations in the corporation commission hearing of April 13. This is a decrease of approximately 2000 barrels below the indicated demand for the first 15 days but is actually about 3000 barrels higher than the average daily runs for that period. After making nominations totaling about 103,000 barrels for the period April 1-15, purchasers made some readjustments and pipe line runs for the period are estimated at 1,473,390 barrels, or a daily average of 98,226 barrels.

Production for the same period was approximately 1,680,650 barrels, or a daily average of 112,043 barrels, giving an estimated 207,260 barrels addition to stocks. Allowable production for the first 15 days was 1,920,202 barrels, which after deducting estimated production, would leave an estimated current underproduction of 239,552 barrels.

Sinclair Prairie Marketing Company purchasing company for the newly organized Consolidated Oil Corporation, made its first nomination under the new name although both old companies had been buying Oklahoma City crude. In the meeting of March 29, Sinclair-Texas Pipe Line Company refused to make a nomination although it had been running more than 100,000 barrels daily shortly preceding the meeting.

Status of Oklahoma City Pool As of April 1, 1932

Company—	No. of wells	Corp. com. potentials	Net allowable for Mar.	Mar. prod.	Stock 7 a.m. Mar. 1	Mar. runs	Stocks 7 a.m. Apr. 1
Acme	1	17,255.70	10,767	12,072	1,035	12,338	769
Addition	1	19,216.72	15,969	18,572	2,420	20,508	484
American	1	13,047.00	2,788	2,791	500	2,896	395
Anderson-Kerr	1	10,907.48	2,475	2,483	352	2,489	346
Anderson-Pritchard	27	118,503.34	178,386	154,830	28,942	169,998	21,467
Argood	1	96.40	13,505	3,792	194	2,177	1,790
Blackstock	1	1,774.48	1,146	1,162	292	1,446	8
Blackwell	5	28,357.50	17,884	17,983	9,809	21,716	6,076
British-American	9	86,631.60	43,320	43,220	6,292	43,805	5,708
California	1	313.10	6,458	—105	4,739	1,314	3,318
Capitol O&R	2	19,494.44	11,299	10,865	1,656	11,812	707
Capitol Prod. Trust	1	13,052.48	8,086	9,910	4,580	12,797	1,693
Century	5	42,643.46	37,780	43,736	11,016	42,517	12,234
Champlin	10	35,509.46	—101,502	12,374	4,807	12,038	5,114
Chatham	2	28,264.80	13,821	13,823	1,600	13,934	1,489
Coline	34	19,147.77	46,664	46,705	13,819	47,017	13,507
Continental	12	67,952.88	—18,779	12,846	36,996	35,750	14,081
Courter	1	5,607.00	1,379	2,631	1,785	2,679	1,737
Cromwell-Franklin	31	90,113.82	61,071	103,262	69,086	109,091	63,264
Dabney-Johnston	1	4,260.00	2,605	2,605	738	2,909	434
Danciger	1	10,279.50	5,682	5,696	2,145	5,653	2,188
Denver	6	15,279.92	28,154	32,168	13,539	39,912	5,854
Denver-Reynolds-Pl.	1	12,216.82	17,806	21,067	4,585	22,531	3,118
Dengail	4	28,113.60	37,807	37,810	10,055	39,411	8,466
Donleon	2	27,768.20	12,801	15,210	1,553	11,921	4,766
Eason	3	28,499.42	9,164	9,636	2,284	9,785	2,101
Empire	3	16,409.95	23,578	24,724	3,198	25,742	2,178
Franco-Dominion	1	12,506.80	25,216	20,928	4,048	21,545	3,432
Franklin, Wirt	38	72,895.46	121,806	133,340	54,778	130,602	58,465
Great Southern	1	5,941.20	4,322	2,961	3,500	4,621	1,840
Government	2	9,980.20	3,983	7,143	2,802	5,314	4,639
Hall & Briscoe	2	2,079.00	2,664	9,946	335	2,202	8,079
Harrell-Davis	1	New Well	....	1,098	....	915	205
Holman, Ed. S. Inc.	1	3,352.20	10,937	16,645	2,270	14,971	3,944
I. T. I. O. Co.	293	540,855.69	651,319	580,255	189,672	661,541	125,844
Kedberg	1	474.00	—24,757	.....	463	.....	463
Kessler	1	3,727.50	—182,342	.....	843	.....	843
Lassen & Corn	1	New Well	....	2,475	....	571	1,904
Mabee	4	48,274.61	38,701	38,719	1,236	38,061	1,907
Marco	1	No Potential	....	.....	247	.....	247
Marshall	3	34,349.50	5,582	13,213	2,371	10,888	4,696
McArthur	2	27,402.88	5,764	6,196	2,401	7,417	1,182
Mid-Kansas	6	5,811.10	6,613	6,617	3,793	7,805	2,644
Minnehoma	1	18,886.22	8,496	10,041	595	4,315	6,360
Morgan	3	32,559.48	14,576	14,456	720	12,480	2,695
Ocate	3	39,530.92	5,893	22,801	3,251	22,765	3,307
Oils, Inc.	4	32,436.54	27,462	31,754	2,564	33,167	1,162
Paine & Johnson	1	10,853.82	14,070	7,067	7,086	9,939	4,224
Peacock, John H.	3	2,981.64	33,113	14,543	1,867	15,118	1,236
Phillips	64	716,931.84	458,745	535,460	136,778	612,963	59,786
Plains	2	10,028.60	3,596	3,704	822	3,737	791
Prairie	14	7,142.56	25,586	25,516	1,524	24,958	2,082
Rajah	1	14,569.32	5,985	6,415	1,231	7,571	74
Reynolds & Unruh	1	8,254.96	7,473	8,158	1,200	7,440	1,918
Rehners Prod.	2	New Wells	....	2,548	239	2,593	194
Russell	2	21,122.00	17,467	17,418	7,748	19,735	5,426
Scott & Co.	2	433.12	10,829	5,362	5,770	8,011	3,092
Shaffer, J. C.	6	30,589.04	18,815	21,327	5,569	21,614	5,285
Shell	8	1,487.58	14,987	9,792	682	9,650	846
Sinclair	54	97,007.34	63,395	57,534	13,021	58,406	12,171
Skelly	23	105,448.34	59,974	60,238	11,728	61,164	10,808
Slick-Urschel	101	532,456.06	475,685	455,984	56,936	450,804	61,780
Springrose	1	13,019.86	4,440	6,172	767	6,490	450
Stauffer	1	9,919.54	2,469	3,552	79	2,713	917
Sunray	4	54,376.72	27,173	27,202	18,058	43,622	1,638
Watchorn	1	15,341.12	13,255	13,248	9,320	18,965	3,608
Westgate	7	90,310.06	62,736	71,717	4,308	72,815	3,187
Wilcox	10	79,434.00	....	27,752	5,718	27,645	5,826
Wrightsmith	2	2,882.00	6,965	5,969	6,501	8,587	3,883
Total	846	3,476,369.06	543,107	2,967,134	810,858	2,197,906	606,381

Natural Gas Men Meet At Tulsa May 9-11

Tulsa.—Those who attend the annual meeting of the Natural Gas Department of the American Gas Association at the Mayo Hotel here May 9-11, will have an opportunity to inspect a natural gas system which is characterized as one of the most highly developed in the world. Every detail of the modern system operated by the Oklahoma Natural Gas Corporation will be open to delegates throughout the convention, according to R. W. Hendee and B. F. Pickard, Jr., vice presidents of that organization.

The annual meeting will include a joint meeting of the sub-committee on the code for testing natural gas for gasoline content to be participated in by a committee of the Natural Gasoline Association of America. This session will be held Monday morning, May 9. There will also be a meeting of the Main Technical and Research Committee and sub-committees, also to be held Monday morning, May 9.

Registration fees this year will be $4.00 per person, which will include all expenses of the banquet and entertainment.

Regular convention sessions will start at 2 p.m. on May 9. The program will include many interesting papers on subjects of importance to natural gas men.

Drumright Chapter Plans Community Meeting

Drumright, Okla.—The Drumright Chapter, American Petroleum Institute, has converted its next regular meeting into a community affair and will have as guests, anyone interested in oil. The program will be presented in the high school auditorium at 8 p. m., Tuesday, April 19, the change of place being to take care of a larger crowd. Fred E. Cooper of the Fred E. Cooper Company of Tulsa, will present several reels of pictures showing manufacturing activities of the Advance-Rumley Tractor Company and Allis-Chalmers Manufacturing Company and will supplement his portion of the program with a comedy picture.

The second feature will be a personal

appearance and illustrated talk by M. M. Kinley of the Fire Fighting Kinley Brothers, who recently returned from Roumania where he conquered the famous Moreni fire. Mr. Kinley will show motion pictures of the work on this gusher which blazed for two years and eight months and cost the lives of at least 10 men. Pictures will be shown of several other oil field fires that have been extinguished by the Kinley Brothers.

Allen Compares West With Mid-Continent

Los Angeles.—Conditions in the Mid-Continent oil fields both from the standpoint of the petroleum industry and from the general economic situation, are much improved as compared to California, in the opinion of R. E. Allen, assistant oil umpire of this state, who returned to California from a visit to the Middle West. He attended a conference of proration officials of various states held in Dallas but his trip took him into Louisiana and Oklahoma as well.

The general attitude of not only the oil men but the people as a whole is optimistic, he declared. The increase in crude prices and the increase in gasoline prices are the material evidence of benefits to be obtained from proper oil curtailment and this has already come to Mid-Continent operators. The change in the minds of landowners, producers and refiners from a violent desire to overproduce to a keen willingness to keep production evenly balanced with consumption, is the outstanding feature of the industry in the Mid-Continent he stated.

As a result the larger companies are spending a great deal of money acquiring new oil territory in anticipation of a condition, believed to be rapidly nearing, when the Middle-West will be actually at the point of lack of available crude. The biggest wildcatting boom in the history of Texas is anticipated next year. East Texas, the former threat to the Mid-Continent, is under curtailment and the state railroad commission now has complete control of the state. Enforcement of proration orders is becoming easier because of the changed attitude of land owners and producers with regard to over-production.

Oklahoma likewise is feeling the benefit of curtailment, though not quite as much as Texas. But that state also has adopted the optimistic attitude and this is apparent in renewed activity in all lines of business. Prices generally are recovering in all lines as a result of the adoption of the optimistic attitude, he decleared.

Standard to Drill Island Off Santa Barbara Coast

Santa Barbara, Calif.—Standard Oil Company of California is building more than eight miles of roads on Santa Rosa Island, off the coast from Santa Barbara, and will soon drill a well to test formations which have produced on the mainland.

The Santa Barbara Islands have been the source of much speculation by geologists regarding the type of rocks occurring on them. Perhaps less is known about these islands than almost any other part of Southern California, according to William S. W. Kew, geologist for Standard Oil Company of California, who has done extensive work in the district.

Oklahoma Field Developments

Completions

CREEK COUNTY

Company, Well and Location—	Bbls.	Depth
Gled Oil Co., Koch 9, ne c se ne 20-19-9e	150	2213
The Texas Co., Weaver 9, se ne se 13-19-8e	55	2243
Gled Oil Co., Fish 1, ne c se nw 7-19-9 west	*	2430
Ben Curtis et al, Reynolds 1, sw c se 29-17-12e	*	2414

MARSHALL COUNTY

C. B. Goddard Oil, Marshall 6, ne c sw 30-5s-6e	10	625

MUSKOGEE COUNTY

J. V. Dunbar, Spaulding 2, sw c ne sw 4-15-18e	*	1110

OKLAHOMA COUNTY

Phillips Pet., Beighler 1, nw c se ne 22-11-3w....8 hr.	585	6464

PAWNEE COUNTY

A. J. Bookout, Pierce 1, ne se sw 20-20-10e	*	1991

PONTOTOC COUNTY

Rabial Oil Co., Brown 1, se ne ne 28-5n-6e	190	1656
Max Westheimer, Milner 6, csl se se 8-5n-8e	20	818

STEPHENS COUNTY

Continental, Dare 2, nw sw se 2-2s-8w	35	2088

First Reports

CREEK COUNTY—Kemp & Nunnelly et al, Benson 1, nw c 31-17-7e.

HUGHES COUNTY—Mid-Continent Pet. Corporation, Jacobs 1, nw ne se 9-7-8e.

MUSKOGEE COUNTY—H. L. Jolly, Spaulding 4, sw c se se ne 8-15-18e.

OKLAHOMA COUNTY—Phillips Pet. et al, Brimm 1, sw c ne nw ne 3-11-3w; Anderson-Prichard Dennis 1, se c ne nw se 22-11-3w.

OKMULGEE COUNTY—Hazlett and Elson Oil Co., Peloche 1, sw c se ne se 23-15-12e. Atkins & Chapman et al, Thompson 1, nw c ne sw 6-14-13e. Castleman, Thomas 6, csl sw se 23-14-14e. J. L. Selby, Flint 4, ne c nw 26-14-14e. J. H. Rebold, Charles 1, c sw sw 28-13-11e.

OSAGE COUNTY—Lindy Oil Co., 4, ne nw sw 29-20-12e.

POTTAWATOMIE COUNTY—Amerada Pet. Corp., Mitchell 1, ne c 3-6-4e. Noble Drlg. Co. et al, Lucas 1, nw c 2-6-4e.

SEMINOLE COUNTY—The Texas Co., Sandlin 2, ne se sw 29-9-6e. Empire O&R, Davis 1, "B", nw se ne 30-7-8e. Empire O&R Campbell 1, nw sw sw 20-7-8e. Empire O&R, Fish 4 "B," sw ne se 19-7-8e.

STEPHENS COUNTY—J. C. Chambers et al, Delan 1, sw nw nw 15-1s-8w.

Wildcat Drilling Report

(Wells shut down not included)

LINCOLN COUNTY

	Feet
T 17n, R 5e, Sec. 36, W. M. Mote et al, School land 1, nwc, dr	1850
T 14n, R 3e, Sec. 2, Hilton Phillips, Phillips 1, sw c nw, dr	4910

CREEK COUNTY

T 14n, R 7e, Sec. 18, Cal Cul, Holleyman 1, se c ne se, fsh	705

LINCOLN COUNTY

T 12n, R 5e, Sec. 3, Sovereign Oil Corp., Selacek 1, ne c se, dr	3810

PITTSBURG COUNTY

T 4n, R 16e, Sec. 3, Ruby Ann Oil Co., George 1, cel nw se, dr	620

WASHITA COUNTY

T 9n, R 17w, Sec. 23, Miley Pet. Co., Chapman 1, ne c sw, rig.	

POTTAWATOMIE COUNTY

	Feet
T 9n, R 4e, Sec. 1, Clara O&G, Timmis 1, sw nw ne, set S.P.	81
T 6n, R 4e, Sec. 25, Barnsdall et al, Gray 1, ne c sw, 8-inch at	3237

CUSTER COUNTY

T 14n, R 14w, Sec. 12, Miley Pet. Co., Caldwell 1, ne c, bldg rig.	

SEMINOLE COUNTY

T 10n, R 6e, Sec. 19, Bunte et al, Bruner 1, se c nw, rig.	

CADDO COUNTY

T 5n, R 9w, Sec. 6, Mid-Kansas & Ramsey, Culp 6, nw c ne, td 10,079 ft, pb to 6089-94 ft; show 3M gas, some salt water, hfw 4555-75 ft, will pb to	3400

GRADY COUNTY

T 4n, R 7w, Sec. 35, Schumaker, Slaton 1, nw c, rig.	

COAL COUNTY

T 2n, R 8e, Sec. 10, Rabiel Oil Co., Miller 1, se c ne, (owd), sd	1845

KANSAS FIELDS

Flow of 78,662,000 Cubic Feet in Reno County Sets New State Record for Gas.

FLOYD SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Kansas Gas Well Sets State Production Record

Wichita Kansas. — Olsen Drilling Company and Shell Petroleum Corporation completed during the week, what is believed to be the largest gas well ever completed in the state, when Goering 1, CNE SW, Section 26-23s-4w, in the new lake area of northeastern Reno County, came in for an initial gauge of 78,662,000 cubic feet. Production is coming from Mississippi chat logged from 3242 to 3332 feet.

The new well is located about a half mile southwest of Continental Oil Company and Shell Petroleum Corporation's Blake 1, which was originally completed in April, 1931, making 13½ million gas from 3308 to 3324 feet. Later it was drilled to 3379 feet and recompleted for 200 barrels of oil and 16,000,000 cubic feet of gas.

There are now eight completed wells in the district and Olson Drilling Company, which has acquired acreage from Shell Petroleum Corporation under a "farming out" agreement, probably will add two more within the next few weeks.

Rice County

Gypsy Oil Company's Steckel 1, C NE NW Section 31-19s-10w, pumped 140 barrels the first 24 hours, after being shut in for additional tankage since early in March. Production is coming from Arbuckle limestone from 3300 to 3325 feet. This well is approximately two miles north and a little east of the Charles Hilligos et al's Isern 1, which was a discovery well in southeastern Barton County.

Steckel 1 is just over the line in southwestern Rice County and about four miles northwest of the Schurr-Raymond pool.

Fire Regulation Halts Oklahoma City North Trend

Oklahoma City.—Advance of drilling operations on the Oklahoma City townsite was halted, temporarily at least, on April 11, when Acting Governor Robert Burns ordered that no further extension be granted the U-7 or oil drilling zone which has caused considerable dissension among oil companies and residents of the city during the past few months. Acting on instructions from the acting governor, State Fire Marshall J. T. Jones immediately announced that an order would be issued prescribing the present drilling area and directing that no new development be started outside the zone. Burns' action was based on a report by Jones, who pointed out that every location in the proposed extended zone would produce the greatest fire hazards possible. Residents of the eastern portion of Oklahoma City, whose properties lie directly north of the present north limits of development and within an area which should be underlain by rich Wilcox sand production, have recently made strenuous efforts to prevent extension of the U-7 zone northward. Action in this respect heretofore has been before the Oklahoma City Planning Commission, but action of the acting governor takes the question from the hands of that body and makes it a state issue.

Kansas Field Developments

Completions

Company, Well and Location —	Bbls.	Depth
COWLEY COUNTY		
Fine et al, Wallace 1, sw c 28-32-4e	*	3079
GREENWOOD COUNTY		
Aikman and Braden et al, Povenmire 1, ne se se 15-22-13e	*	1863
McPHERSON COUNTY		
P. J. Breslin et al, Flook 1, ne c nw 35-19-2w	¶10-50	2907
Lassen et al, Hale 2, sw c ne 24-19-2w	1240	3397
Rush Oil Co. et al, Robinson 2, c ne sw 10-19-2w	¶6½-144	2932
RUSSELL COUNTY		
Palmer and Deep Rock Oil, Pasek 1, c se 3-14-11w	*	3427
SEDGWICK COUNTY		
Skelly Oil and Davis, Wilson 9, sw c ne 1-26-1w (owd)	*	3474

New Operations

GREENWOOD COUNTY—McGinnis et al, Peoples 2, se nw ne 33-23-11e. Harwood Oil Co., Beal 3, se sw se 28-23-11e.

McPHERSON COUNTY—Helmerick & Payne et al, Johnson 1, csw ne 13-17-2w. Rush Oil Co. et al, Robinson 1, (owd), c se sw 10-19-2w.

SUMNER COUNTY—Trees Oil Co. et al, Tompkins 1, sw c 26-33-1e. Gypsy Oil, Williams 2, sw ne sw 16-35-3w.

Wildcat Drilling Report

	Feet
SUMNER COUNTY	
Trees Oil Co. & Shell, Springate 1, ne se sw, 6-34-2e, td..	2760
Trees et al, Tompkins 1, sw c, 26-33-1e, lcn.	
KINGMAN COUNTY	
Panhandle Drlg. Co., Wetherall 1, c se nw sw, 20-28-10w, ur 12-inch, td	1610
EDWARDS COUNTY	
Mid-Kansas, Converse 1, sw ne ne, 30-24-18w, dr	1270
RENO COUNTY	
Martin et al, Yoder 1, c nw nw, 15-24-5w, rig	....
FINNEY COUNTY	
National Ref. Co., Wells 1, sw c, 13-23-30w, 8-inch 4450 ft, dr	4505
HARVEY COUNTY	
Joe Liggett, Voshell 1, ne sw, 3-23-3w, lcn	....
RENO COUNTY	
Jarvis & Wright, Rainbow 1, nw nw se, 33-22-7w, dr	2422
HARVEY COUNTY	
D. R. Louck, Regier 1, sw se nw, 9-22-3w, dr	660
McPHERSON COUNTY	
Deitrick et al, Sinclair 1, se sw, 25-19-1w, dr	1300
Hankenson et al, Cessnum 1, sw se, 24-17-9e, D&A, td	2625
DOUGLAS COUNTY	
Hewitt & Lewis, Dodder 1, c nl sw, 7-15-18e, dr	665
RUSSELL COUNTY	
Twin Mounds Oil, Weis 1, c w½ ne nw, 30-12-4w (owd) 10-inch 2831 ft, dr	2843
SHERIDAN COUNTY	
Flo et al, Shoemaker 1, se sw sw, 27-27-26w, fsh for bailer, td	4505
PHILLIPS COUNTY	
Hall et al, Donaldson 1, c ne ne, 25-5-18w, dr	890

EAST CENTRAL TEXAS

Failures and Small Wells Among Week's Completions Van Allowable Not Changed Land Owner Gets Shot Gun

H. H. KING, ***Staff Representative, Fort Worth, Texas***

Land Owners Ready to Take Hand in Production Curb

Tyler, Texas, April 15

NONE of the four operators relieved temporarily April 7 of a federal court injunction restraining them from violating the Texas Railroad Commission's proration orders in East Texas has elected to disregard proration restrictions. They could do so and only be confronted with usual penalties fixed by the commission's orders as the military authorities are barred from any jurisdiction over the properties by an existing injunction order. However, public sentiment is such that the quartet of operators are reluctant to open wells as threatened by their court action.

LONGVIEW, TEXAS, APRIL 15

FORESHADOWING what might happen if wells in East Texas are flowed wide open, at least one instance of pipe line cutting, together with threat of gun play, was reported in that section during the past week.

When Alfred Macmillan and associates produced in excess of the Texas Railroad Commission's orders on a small lease in the north portion of the East Texas field, on April 11, the pipe line connecting the well with a loading rack was cut, reports to THE OIL WEEKLY assert.

No resistance was given by the property owners to the closing in of the wells and planting of a guard so as to prevent further violation of the commission's production curtailment orders. The military forces are barred from this particular property by a temporary injunction order issued March 5, 1932, by Federal Judge Randolph Bryant, so enforcement rests entirely with the commission's proration staff operating under the direction of Luther Swift, district supervisor.

Macmillan and associates' J. R. Fenton 10-acre lease, bearing three wells, was closely guarded against attacks during the period that proration restrictions were being defied, but unknown parties severed the pipe line, extending from the lease to Macmillan et al's 40-car capacity rack at Camps Switch. However, the damaged line was repaired in short order, and persons responsible for the act did not set the escaping oil afire, as originally threatened, according to reports. The ire of royalty owners having interests in close vicinity of the above property was stirred up to such an extent that a shot gun was reported to have been flashed by one of the parties involved, with a threat that the firearm would be used if the wells remained open.

Events transpiring during the brief period that Macmillan and associates exceeded the well allowable of 71 barrels daily, resulting in the production of several thousand barrels of oil, has satisfied many operators that state and federal courts are not altogether needed to uphold proration enforcement in this field as long as an overwhelming majority of the producers and royalty owners are in sympathy with proration. It is freely predicted that property damage, and personal harm will be sustained within 48 hours by any operator that elects to disregard proration restrictions and flow the property at a high rate of production.

Agitation for rigid enforcement of proration has become more pronounced since the introduction of the 98-cent crude price by all purchasing companies serving the field. Complete, or partial breakdown of proration enforcement will automatically hurtle crude prices to a low level.

To Alfred Macmillan and associates goes the record of being the oldest continuous challengers of proration enforcement in the East Texas field. Carl Estes, et al, Tyler, filed the first injunction petition against the commis-

Failure Confirms Strip of Non-Productive Van Area

Tyler, Texas.—Presence of a narrow non-productive strip of acreage cutting across the Van field parallel to and on the north of the most prolific and longest unbroken stretch of producing acreage, is now apparent. Completion of The Pure Oil Company's J. J. Murphree 4, located in the north central part of the field, as a dry hole after drilling to 3004 feet without encountering productive Woodbine sand, tends to bear out such a theory.

Prior to the completion of this failure there have been three dry holes and small producers situated to the northeast, resulting in the omission of a number of units from possible production in the Woodbine horizon. This omitted area took the form of a slice of pie, with the point heading via two small pumpers on the south end of the J. H. Leonard and R. H. Peters tracts, thence to the southwest via dry holes on the J. T. Petty, I. W. Thompson tracts and J. M. Martin tracts. The latter three failures are really outpost locations.

A pronounced fault has been established since early development work in a northeast to southwest direction across the field, and it is on the southeast flank of this disturbed area that wells have cored and recovered in excess of 500 feet of Woodbine sand formation. Other than deleting a little more potential oil area, the disappointing showing made by Murphree 4 will not have any important bearing on future operations, as the southeast half of the 80-acre tract has yielded three wells of large potential flows from the regular horizon, but in above 2953 feet in depth.

Humble Oil & Refining Company's J. F. McPhearson 1, located in southwest part 72-acre lease, Wm. Daniel Survey, afforded a minor extension to the unit block with an actual flow of 20 barrels daily via tapered tubing and bottom hole choke from sand at 2940-2959 feet. The Pure Oil Company's L. A. Smith 4, located on 40-acre lease and on east side of the unit area, made a big initial flow from sand at 2518-2935 feet, but the same company's R. E. Cade 4, located on the extreme southwest side of the unitized area, made 30 barrels per hour via 11/16-inch choke from sand at 2846-2993 feet.

sion's orders on April 10, 1931, or the effective date of the orders, but later voluntarily withdrew the plea. Macmillan and others attacked the proration orders in federal court, and won a favorable decision before three Judges at Houston, July 24, 1931. The court ruled that the commission had resorted to a "usurpations of powers not delegated to that body." The field order involved in this federal court decision has since expired, and been replaced on a new basis.

Macmillan et al renewed their court attack on proration March 5, 1932, when a temporary injunction was granted by Federal Judge Bryant restraining the military proration authorities from molesting, or trespassing on the plaintiff's properties in the field. However, the Texas Railroad Commission was not included in this recent injunction, and is reported to be free to enforce its proration order of February 26, 1932, on the entire field in the face of losing a decision to Macmillan et al in the lower court last July.

Charges of improper accounting and unnecessary delay in settling for royalty oil interests on the part of some producers have been reported from the ranks of royalty owners as a sequel to the long period of unrestricted production participated in last spring and early summer by many of the companies and operators. Property owners in the group so accused are being checked with suspicion by royalty owners at all times.

Cementing Rules Revised To Meet Conditions

Tyler, Texas.—Rules governing the cementing of casing in East Texas field wells by the Texas Railroad Commission have been amended so as to conform to varied conditions. The old order required the use of a minimum of 150 sacks, without providing for the extremes in pipe sizes, which now range from three-inch to 8¼-inch casing for oil strings. The amended order reads: "The producing string of casing in each well must be cemented by the pump and plug method. Sufficient cement shall be used to fill the annular space between the casing and the wall of the hole to a point at least 600 feet above the casing shoe. Cement shall be allowed to stand a minimum of 72 hours before drilling plug, or initiating tests."

Rigid enforcement of the 72-hour shutdown period would serve to slow down completions in the field, as many operators now resume at the earliest moment possible in order to free the rig for another location.

Failures, Small Wells Mar East Texas Completion Record

Tyler, Texas.—Maintaining its usual run of numerous completions during the past week, the East Texas field scored an exceptionally large number of disappointments in the form of failures on the rim of the structure and small producers. Two water wells resulted from efforts made to expand the oil producing limits of the Joiner area further westward in Smith County. J. E. Lucas et al's Sartain 1, Juan Vargas Survey, yielded only salt water when tested in sand at 3805-3807 feet, and is to be plugged back with cement and the hole re-drilled to the top of the sand for another test. In the same area, Sinclair Prairie Oil Company's E. E. Moore 1, located in the southeast corner of 97-acre lease, made mostly salt water when tested in sand at 3708-3729 feet, and will also be plugged back for a second try at making a commercial oil producer.

On the east edge of the lower portion of the Joiner area, W. H. Gant-Garvin & Wegener's L. A. Till 1, located on the west edge of the M. V. Pena Survey, passed up thin streaks of sand showing some oil between 3556-3584 feet, and at last reports was drilling in shale and dry sand below 3648 feet. This test is the first of a 10-well drilling obligation assumed by the above interests in acquiring lease on 800 acres several months ago. On an adjoining drilling site to the southwest, Mullins & Strickland's L. A. Till 1 developed only a trace of oil when given drill stem test at 3597-3653 feet. While neither of these two outpost tests have been eliminated from developing production, the oil output will be small in volume, if any.

Salt water is reported to have put in its appearance on two old completions held by Gulf Production Company in the western part of the Cordova Survey, Joiner area. This company's Walter Shaw 1 was credited with showing three per cent water while restricted to 71 barrels daily flow, while G. G. Turner 7 is reported to have developed between 60 and 70 per cent water before going dead.

In the Overton townsite area, Goodgame and Eby's W. W. Holland 1 has been completed as a pumper making 120 barrels of fluid on first 12-hour test, showing about 50 per cent b.s. and water. This well made a brief flow upon completion early in January from sand at 3825-3832 feet, but water broke in and killed the flow. The hole was plugged back with cement and re-drilled to the top of the sand.

Westheimer & Daube's J. T. Florence 1, located on 20-acre lease, M. V. Winkle Survey, and on the east flank of the Kilgore townsite area, failed to encounter Woodbine sand, and has been abandoned in Georgetown lime at 3670 feet.

Clark-Brooks et al's J. M. Mayfield 1, Daniel Clark Survey, promises a minor extension to the east side of the Kilgore area, Rusk County, as result of reported oil saturated sand cores taken at 3640-3642 and 3660-3670 feet. Pipe has been cemented to make a production test. This outpost is east of L. G. Priest et al's Mayfield 1, which made a good producer several months ago, but Shell Petroleum Corporation's T. Wells 1-B, a north offset to the latter, is showing for a small pumper after drilling through the sand horizon into Georgetown lime at 3768-3774 feet.

Van Allowable Remains at 50,000 Barrels Daily

Austin, Texas.—Maintaining the former allowable of 50,000 barrels, the Texas Railroad Commission has issued an order on the Van field effective April 16, and following the precedent recently established, no expiration date has been set, the commission reserving the right to modify this order at any time without hearing.

Arguments against the present method of proration in the field, presented by David Donoghue on behalf of Broderick and Calvert, royalty owners, were overruled, and the old basis maintained. The only change in the rules was the revocation of Rule 5 of the old order which permitted 10 per cent variation in the production allowable of wells in the "so-called unit operation or joint account."

Explaining its failure to grant the request of Mr. Donoghue, the commission said: "From evidence submitted at said hearing (April 5), and from previous hearings which formed the basis of previous orders, that the results obtained in the conservation program, which has been in effect in said field for some time has been most satisfactory, and that the rules, regulations and orders now outstanding which were adopted in the above numbered and entitled cause, have been most beneficial to said field."

Mid-Continent Association Draws Resolution Against Tax

TULSA, OKLA., APRIL 15

A RESOLUTION was adopted here Friday, April 15, by the directors of the Mid-Continent Oil & Gas Association opposing the pipe line tax bill. It was pointed out that no similar transportation tax is levied against other commodities, but that the tax is confined to oil, and at an extremely high rate; and protest was made against enactment of Part Four, Title Five, being Section 731 of the proposed bill, for reasons that domestic petroleum industry and its production are now over-taxed, compared with other industries, because of popular misconception of the industry's ability to pay.

Illustrating such condition is the fact that in various states property and business of the industry are subjected to heavy ad valorem or general property tax, plus state, income, and license taxes, tank car taxes, and particularly gross production and severance taxes, in some states transportation taxes, and in all states exorbitant gasoline taxes.

It was further pointed out that gasoline taxes of the states during the past year aggregated $550,000,000, ranging from two to seven cents per gallon, plus in some instances county and municipal taxes making the industry's burden so heavy as to invite widespread bootlegging, evasion, price cutting, and other demoralizing marketing practices.

"Financial reports for 1930 and 1931 will reveal widespread and appalling losses throughout the industry," the resolution declared. "It has been fairly estimated that the tax burden of the oil business is now in excess of $1,000,000,000 per annum. To now add a tax upon transportation, which tax would be largely borne by the producer, would be but to add to the growing deficit of this industry, and to retard, if not indefinitely postpone, date of its recovery."

Aside from the welfare of the oil industry it was pointed out that the public interest is involved because oil is an unreplaceable resource, and that the addition of a heavy tax upon transportation from inland pools will have a depressing effect on prices and demand for such inland oil, thereby jeopardizing some 300,000 old wells.

Based on these reasons "we therefore despectfully petition the finance committee of the United States Senate to eliminate this item from the revenue bill, believing that its destructive effects if enacted would far outweigh the importance and value of any revenue that might be derived therefrom."

Elect New Officers

New officers of the Mid-Continent Oil Q Gas Association were selected as follows: William N. Davis, Phillips Petroleum Company, Bartlesville, president; T. C. Johnson, Wichita, vice president for Kansas; C. C. Herndon, Skelly Oil Company, vice president for Oklahoma; J. D. Collett, Fort Worth, vice president for Texas; J. R. Crawford, Shreveport, vice president for Louisiana and Arkansas; J. M. Hervy, Roswell, vice president for New Mexico; and Harry H. Smith, Tulsa, secretary-treasurer.

Austin, Texas.—In spite of the large number of special permits issued operators on small tracts in East Texas, two suits have been filed in the 98th district court at Austin to force the commission to issue permits to A. F. Bullard and J. D. Henderson.

The plaintiffs contend that the commission has refused these permits, terming their action as "arbitrary, unjust, unreasonable and discriminating."

175 New Locations for East Texas Area

Tyler, Texas.—Authorizations for approximately 175 new locations for the East Texas oil field were made during the week ending April 15, making a record for the current year but below the peak of 195 established within a single week last October.

Recent posting of a 98-cent crude price by all purchasers enables a well owner to pay out the actual cost of drilling and equipping a flowing well within approximately 10 months under current proration allowables. Well allowables will be further reduced at the end of the April proration period and the intensive drilling campaign may make it difficult to maintain the prevailing crude price.

Operators Favor Conserving Gas in Deep West Texas Wells

San Angelo, Texas.—Testimony given by engineers representing the two operating companies in the Big Lake field at the Texas Railroad Commission's hearing on proration and gas conservation orders proposed for the field revealed that the operators are heartily in favor of conserving the gas flow from the deep wells and are spending large sums of money to accomplish such a goal. The hearing was held here April 13, with C. V. Terrell, chairman of the commission presiding.

An official order governing the proration allowance and operating methods to be followed in handling the nine completed wells in the deep horizon will be issued by the commission after reviewing the expert testimony submitted as evidence at the San Angelo hearing. Current production in the field is approximately 25,000 barrels daily, including 15,370 barrels of oil from the 8500 to 9000-foot horizon. The upper section of this deep horizon yields an exceptionally large volume of wet gas, and considerable crude of water white color. The lower section offers a nominal gas-oil ratio, and the oil is 48 gravity and less, with a lube oil content that ranks with the best grades obtainable in Pennsylvania fields.

Approximately 12¼ million barrels of oil has been extracted from the deep zone since its discovery late in November 1928.

Excessive pressures carried on tubing and casing strings in the completions have made it very hazardous in enforcing a nominal gas-oil ratio. This oil and gas drainage from a comparatively small area has been followed by the appearance of water in four of the Big Lake Oil Company's deep wells, and in two of the Group One Oil Corporation (Continental Oil Company) deep producers. This water encroachment resulted in the companies doubling their efforts towards curbing the gas waste as a means of conserving the rock pressure on the field. The pressure has apparently remained near constant in spite of the bottom hole water encroachment.

Plugging back with cement has been proven successful in checking the water

situation. Group One Oil Corporation successfully landed and cemented a string of casing below the heavy gas and light oil horizon in University 1 "B", and is now giving similar treatment to University 4 "B", which made water recently, and will do likewise on University 2 "B". Big Lake Oil Company is experimenting along the same lines with University 2 "C", but is forced to use tubing with a special packer, because of small pipe now serving as the oil string, in its efforts to shut off the upper gas and oil pay.

E. H. Griswold, petroleum engineer for Group One Continental interests, testified that University 4 "B" was plugged back 60 feet from 8740 feet, then tested about 1500 barrels of white oil in 14 hours, and gas at rate of forty million cubic feet daily. It is planned to drill out the cement plug in 10-foot sections and test the production each time as a means of locating the contact point on the dark and clear grades of crude. Then a string of 5½-inch pipe will be cemented at this point so as to shut off the upper gas and clear oil horizon. While this procedure is to be very costly, the two operators are willing to bear same in doing their part toward conserving the gas production in the field.

Location for Two Deep Tests in Big Lake Field

San Angelo, Texas.—Group One Oil Corporation (Continental Oil Company) has authorized location for University 5-B, which will be drilled to the 8500-9000-foot horizon in the Big Lake field, as a southeast offset to Big Lake Oil Company's University 7-C, a recent location. These are the first two projected deep tests allotted the field in many months. Big Lake Oil Company's University 6-C is drilling 7500 feet to be the next scheduled completion in the deep horizon.

Central East Texas Field Operations

Wildcat Drilling Report

(Wells shut down not included)

DALLAS COUNTY

Company, Well and Location— Bbls. Depth

J. W. Wilson et al, Wilson 1 ..... * 1150

ELLIS COUNTY

Worthen Pet. Co., M. Cerf 1 ..... * 2264

VAN ZANDT COUNTY

Glen-Tex Pet. Co. (was Clifford Oil Co.), H. F. Haake 1 ..... * 2941

BOWIE COUNTY

Feet

Joe M. Burnham-Robinson & Greer's F. O. Weiss (949--ac) 1, J. Dean sur, dr 1125

W. S. Langford et al's W. W. Whybark (100-ac) 1, J. H. Dyer sur, dr 1795

CASS COUNTY

Wm. S. King et al's T. R. Richey (121-ac) 1, L. Mornen sur, Pecan chalk 2012-2683 ft, coring 3330

CHEROKEE COUNTY

Harper-Parkinson et al's J. F. Lowery (139.6-ac) 1, C. B. Jennings sur, top Pecan chalk 3250 ft, dr 3370

C. M. Joiner Pet. Corp. et al's W. H. Martin (274.9-ac) 1, Daniel Perker sur, lcn.

Mustang Oil Co. et al's Decker (75-ac) 1, G. T. W. Fulgham sur, elev 457 ft, materials.

Patten-Oliver & Murrey's Eddie Toole (½-ac) 1, M. D. L. S. Coy sur, dr 1955

C. L. Tubbs et al's J. H. Sharp (3-ac) 1, M. D. L. S. Coy sur, dk.

Wm. A. Stone et al's (was Helen Clair Oil Co.) Mrs. M. B. Perkins (200-ac) 1, Thomas Sanford sur, dk.

DELTA COUNTY

C. M. Joiner Pet. Corp. et al's J. A. Blackwell 1, dr 660

ELLIS COUNTY

Carl Brooks et al's G. W. Golladay (50-ac) 1, N. C. Hilburn sur, re-set 5 3/16 inch cas 2300 ft, td 2310

FRANKLIN COUNTY

J. F. Mills-McGee & Harper's L. S. Harper (118-ac) 1, W. N. Dawson sur, co 1000

LEON COUNTY

Selzer Drlg. Co.'s J. M. Blair (1235-ac) 1, L. Hibbard sur, dk.

MORRIS COUNTY

Buchanan & Burkhalter et al (was Leonard Pet. Co. et al's) Staggers (65-ac) 1, Forbes & Nelson sur, elev 370 ft, Pecan chalk 2526-3020 ft, soft Pecan chalk to 3095 ft, Austin chalk 3483-3506 ft, ready set cas 3535

RAINS COUNTY

Geo. J. Greer-Wm. C. McGlothlin et al's Roy Harper (100-ac) 1, David Rose sur, elev 438 ft, Pecan chalk 2230-2410 ft, Austin chalk 3490-3810 ft, coring white sand 4345

RUSK COUNTY

Byrd & Frost, Inc.'s, Buckner (49-ac) 1, J. E. Peyton sur, elev 334 ft, Pecan chalk 3125-3515 ft, top Austin chalk 3915 ft, fsh drill pipe 4077

Wemack Oil Co.'s J. G. Arnold (128-ac) 1, Wm. Christian sur, elev 387 ft, dr 3155

Harris & Russell's T. W. Harris (40-ac) 1, W. C. Davis sur, dk.

SMITH COUNTY

Acme Oil Co.'s E. E. Horton (23-ac) 1, I. Casey sur A-204, elev 449 ft, Pecan chalk 3388-3810 ft, sd in shale 4810

C. B. Bunte et al's J. Adkinson 1, Calloway Dean sur, dr 1350

TITUS COUNTY

Perry V. Cook et al (was C. B. Polk et al's) M. C. Rogers (1500-ac) 1, B. Moore sur, repairing rig 4027

UPSHUR COUNTY

Pat Hudson et al's D. F. Smith 1, John Denson sur, elev 258 ft, Pecan chalk 2360-2862 ft, making repairs rig 3365

Feet

J. C. McFarland (Phillips Dev. Co.'s) Willie Starr (96-ac) 1, C. H. Cooper sur, elev 274 ft, Pecan chalk 2372-2888ft, sd 3500

C. J. Webster O&G Co.'s C. V. McClelland (450-ac) 1, M. P. Torres sur, dk.

WOOD COUNTY

Talko Petroleum Corp.'s C. S. Ross (86-ac) 1, F. L. Smith sur, setting cas to test reported show oil 2770-2790

CENTRAL EAST TEXAS

JOINER AREA

Company, Well and Location—	Bbls.	Depth
Big Indian Oil Synd., W. R. Wolford (40-ac) 5	10,000	3628
Blackwell Oil & Gas Co., Samp Stone (53-ac) 6	3500	3678
Bloxom & Nash, F. Cole (31-ac) 1	6000	3812
British-American Oil Prod. Co., J. D. Stone (66-ac) 6	8800	3662
Conservative Oil Co., (Earl Calloway), L. Harmon (33½-ac) 4	11,000	3800
J. J. Deaner & Reynolds, B. Wilson (20-ac) 1	8600	3750
Everts Drilling Co., Jessie Cole 1	8000	3819
Hamp Florence et al, S. S. Cook (20-ac) 1	2500	3778
Golding-Murchison Oil Co., Ida Kinney (336-ac) 7	6000	3689
Gulf Prod. Co., A. H. Rayford 1	4200	3711
A. H. Rayford 2-A	7500	3712
Humble Oil & Ref. Co., W. L. Price (206-ac) 9	9800	3783
R. E. L. Silvey (115-ac) 5-A	10,000	3744
A. L. Walker (124-ac) 5	8000	3652
M. Wooster (70-ac) 4	9000	3786
H. L. Hunt et al, R. W. Fair (153.8-ac) 4-C	9000	3670
H. C. Maxwell 4-A	7500	3788
Merry Bros. & V. C. Perini, Jr., A. Kelly-Simms (90-ac) 1	9600	3678
Mid-Kansas Oil & Gas Co., Jim Lunsford (71-ac) 1	10,000	3697
Sinclair-Prairie Oil Co., A. S. Jarvis (266-ac) 11-A	9000	3690
A. S. Jarvis (256-ac) 6-C	4000	3703
W. D. Kinney (579-ac) 17	9600	3652
Ledbetter 1	11,000	3605
Dora Wright (162-ac) 11	8600	3720
Stewart & Duffy, H. O. Lawn (4-ac) 1	7800	3832
Sun Oil Co., Mrs. A. V. Ritch (99-ac) 2-A	7200	3663
The Texas Co., A. S. Jarvis (115-ac) 1-B	9500	3712
Tulsa Oil Co., J. W. Wheelis (40-ac) 2	7200	3774

KILGORE AREA

A. B. C. D. Oil Synd., J. L. McNeeley (17-ac) 2	10,000	3628
Atlantic Oil Prod. Co., S. G. Andrews (110-ac) 5-A	9500	3602
Atlantic & Byrd & Frost, Inc., R. Whaley (74-ac) 4	8600	3630
Bay Oil Corp., (was A. G. Oliphant), W. P. Moore-Shell (98-ac) 3	4000	3804
Mills Bennett Production Co., W. P. Brightwell (88-ac) 8	9600	3625
Cordova Union Oil Corp. et al, C. O. Christian (36-ac) 1-B	7000	3775
Cosdy-Nelson & Chrole, (was E. E. Fogelson), D. Wade (2½-ac) 1	6500	3731
D. D. D. Oil Co. (J. B. Dunigan), S. Dansby-Tidal (38-ac) 1	8500	3729
Jim Cloud, Inc.,-Dana O&G Co., W. F. Neal-Shell 3	8200	3755
Everts Drilling Co., C. O. Christian 3	8000	3767
Goodgame & Eby et al, Holland 1	110	3832
Great Eastern Oil Co., C. O. Christian (6-ac) 1	9000	3744
Gulf Prod. Co., W. Florence (147-ac) 9	9200	3760
A. A. King (55-ac) 1	7500	3572
Rosa Russell (40.72-ac) 5	10,000	3624
Humble Oil & Ref. Co., Dora Thomas (59-ac) 7	6000	3606
Iotex Oil Corp., Tom Bell (47-ac) 1	8000	3725

Company, Well and Location—	Bbls.	Depth
Jones-O'Brien, Inc., Hughey-Ross (126-ac) 3	8500	3556
Landes et al, M. B. Hughey 1	8000	3579
Lion Oil Ref. Co., A. A. King (20-ac) 2	9000	3636
Magnolia Pet. Co., Hobart Key (64-ac) 2	12,000	3562
McBride et al, Frank Elder 1	8000	3570
H. S. Moss et al (Imperial Pet. Co.) F. Marshall (39-ac) 4	7500	3565
Peoples Pet. Producers, Inc., (K. E. Merren-Mays) W. Hawkins (7-ac) 2	9000	3650
Quad Corp., Duncan 1-B	7000	3612
Republic Prod. Co., J. H. Scoggins (136-ac) 3	10,500	3732
Silver Star Oil Co. (S. P. Shelbourne), Knights of Tabor (½-ac) 1	6500	3619
Stanolind Oil & Gas Co., Wm. Clayton (50-ac) 3	9200	3602
J. S. Powers (100-ac) 5	8800	3691
Thompson et al, M. T. Cole 1	10,000	3563
Tidal Oil Co., M. G. Barton (193-ac) 8	11,000	3558
Tom Bell (95-ac) 3	1500	3680
W. P. Moore (135-ac) 6	5500	3687
C. G. Strong, (113-ac) 3	8000	3631
Wells & Gann Drilling Co., M. Charles 3-B	7000	3649
Westheimer & Daube, J. T. Florence (20-ac) 1	*	3670

LONGVIEW AREA

Company, Well and Location—	Bbls.	Depth
P. J. Aleo et al, (was Taylor-Fithen), Finley-Thomas (10-ac) 1	12,000	3539
Amerada Pet. Corp., Mrs. C. Bumpass (98.3-ac) 5	11,500	3591
Arkansas Fuel Oil Co., F. K. Lathrop (61.4-ac) 2-B	11,000	3619
Atlantic Oil Prod. Co., J. C. McKinley (31-ac) 4	8500	3666
Allen Tooke (40-ac) 1-A	9000	3570
Atlantic-J. K. Wadley, M. Turner (161-ac) 3	7000	3638
Barnsdall Oil Co., J. Douglas-Shell (40-ac) 1	10,000	3704
J. B. Beard et al, J. M. Farrell (43-ac) 1	6500	3626
Black-Collins & Stroube, J. L. Spurrier (30-ac) 2	9500	3594
Jim Bond-Republic Prod. Co., J. H. Alexander (10-ac) 1	4000	3575
Champlin & Bass, Inc., C. C. Clemens (11-ac) 2	8400	3605
H. W. Clarkson et al, J. S. O'Byrne (46-ac) 2	7600	3655
Cox & Jake Hamon, Jr., Fee (73-ac) 5	7200	3575
Deep Rock Oil Co. (was Pelican Nat'l Gas Co.), H. Pritchard (105-ac) 2	13,000	3566
East Texas Ref. Co., T. W. Tuttle (54-ac) 3	9200	3587
East Texas-Reserve Oil Co., Fuller 1	5000	3636
Empire Gas & Fuel Co., L. A. Jeter (121-ac) 5	12,000	3622
F-H-E Oil Co., B. C. Christian (87-ac) 8	13,000	3695
Gilcrease Oil Co., A. Christian (31-ac) 4	11,000	3610
Hawkeye Pet. Corp., J. C. McKinley (10-ac) 2	8300	3639
D. W. Hawks et al (was S. A. Guiberson, Jr.), J. M. Christian (2.9-ac) 1	10,000	3625
Humble O&R Co., T. M. Armstrong (60½-ac) 6	7000	3563
C. C. Clemens (75-ac) 3	4500	3631
J. K. Edwards (71.3-ac) 12	9000	3622
W. W. Lechner & Hubbard, L. Y. Tuttle (12.36-ac) 1	15,000	3539
Lucey Petroleum Co., R. Christian (32-ac) 3	8600	3634
M. B. Fisher (65-ac) 5	9500	3521
Mudge Oil Co., J. W. Free (113-ac) 4-A	8200	3745
J. W. Free (113-ac) 5-A	8500	3752
J. H. Massie-Empire Gas & Fuel Co., H. M. Williams (37-ac) 2	11,000	3639
Jim McMurray et al, Alexander 1	6500	3597
Mission Oil Corp. (was Premier Oil Corp.), Matthews (16-ac) 2	9200	3584
O. J. Perren & A. L. Fell, C. C. Landers-Shell (11.62-ac) 1	10,000	3752
Powell & Irion, Inc., T. & P. Ry. fee 1	15,000	3638
A. D. Robinson et al, Leroy Rodden 2	10,500	3596
Shano Oil Co., J. T. Hopkins (31-ac) 2	12,000	3575
Ted S. Schroeder et al, J. C. Bumpass (26-ac) 3	11,000	3598
Stanolind O&G Co., Cox-Hamon (72-ac) 4	11,000	3540
Stanolind-Simms Oil Co., J. J. Flewellen (374-ac) 5-B	8000	3697
Stanolind-Simms-Continental Oil Co., Flewellen (200-ac) 2-A	7000	3629
Flewellen (200-ac) 3-A	8500	3611
Stanolind-Simms-Peachblossom Oil Co., H. Keys (83¼-as) 3	10,000	3595
The Texas Co., E. M. Woods (90-ac) 6	13,000	3576
Tidal Oil Co., Mrs. Arch Davis (130-ac) 4	15,000	3574
Lake Devernia (270-ac) 4	12,000	3530
Boston Moore 3	11,500	3538
Yount-Lee Oil Co., Pine Hill School (2-ac) 1	9000	3584
F. Smith (69-ac) 3	9500	3525

VAN FIELD

Company, Well and Location—	Bbls.	Depth
Humble Oil & Ref. Co., J. F. McPhearson (72-ac) 1	25	2959
Pure Oil Co., R. E. Cade (50-ac) 4	1500	2993
J. J. Murphree (80-ac) 4	*	3004
L. A. Smith (40-ac) 4	10,000	2935

Permits Granted for New Wells in Texas

ARCHER COUNTY—Cullum & Alexander, Wichita Falls, Falls, C.S.L., 25, 1, B 16, Falls C.S.L. Sur, 200 ft from n and e lines. W. B. Omohundro, Wichita Falls, J. H. Turbeville, 188, A3, J. W. Harris Sur, 1470 ft from n and 150 ft from w line, B 35. L. T. Burns, Wichita Falls, A. Pastusek, 40, 1, B 17, W. E. Probert Sur, 150 ft from n and e lines. W. J. Logan, 70, 3A, No. 23, J. M. Taylor Sur, nw corner. W. J. Logan, 80, 2, No. 23, J. M. Taylor Sur, 500 ft from w and 150 ft from s line. Holbrook & Woods, Wichita Falls, J. C. Thomas, 56, 2, T. Freeman Sur, 150 ft from w and 450 ft from s line. Dr. C. W. Wallace, Wichita Falls, Fee, 167, 10, S. P. Ry. No. 1 Sur, 349 ft s of No. 12.

BRAZORIA COUNTY—J. R. Ingram et al, Houston, Peske, 1107, 2, Peske Sur, 500 ft from w and 300 ft from s line.

CARSON COUNTY—Texoma Natural Gas Co., Amarillo, A. J. Dauer, 480, 1E, S 73, B 4, I&GN Sur, 1327 ft from e and 1335 ft from s line. H. Haiduk, 245, 1G, S 21, B 4, I&GN Sur, 2589 ft from n and 1531 ft from w line sec.

CHAMBERS COUNTY—Gulf Prod. Co., Houston, J. F. Wilburn, A, 30, 8, H. Griffith Sur, 3439 ft from ne and 65 ft from n line. Pure Oil Co., Fort Worth, W. F. Mayes, 519, 15, E. H. R. Wallis Sur, 450 ft ne of No. 11.

CHEROKEE COUNTY—Joiner-Harris, Dallas, W. W. Martin, 275, 1, D. Parker Sur, 330 ft from n and 331 ft from w line.

COLEMAN COUNTY—C. C. Harpham et al, Brownwood, W. O. Norwood, 500, 1, B 234, L. Juliene Sur, 2080 ft from e and 2330 ft from s line.

DUVAL COUNTY—Texas Co., Houston, Duval Ranch, 160, A1, S 96, BS&F Sur, 1170 ft from n and 2860 ft from e line of sec. F. P. Hynes, San Antonio, Fee, 160, 1, S 196, B 26, 200 ft from s and e lines. L. W. Capps, Houston, Duval Ranch, 160, 1, No. 576, 2320 ft from nw and 1097 ft from ne line sec.

FALLS COUNTY—Hodges & Marr, Corsicana, G. London, 10, 1, P. Zarza Sur, 207 ft from n and 150 ft from w line. J. E. Burton, Waco, McDowell, 50, 1, F. Ruble Sur, 150 ft from n and w lines.

FORT BEND COUNTY—Coronado Oil Co., Houston, Blakely, 3500, 4, E. Drew Sur, south central part of lot 8.

GREGG COUNTY—C. G. Glasscock, Longview, Bacle, 6, 1, G. W. Hooper Sur, 158 ft from n and 409 ft from w line. Adams & Lyles, Lockhart, L. Howard, 49, 1, M. Scott Sur, 330 ft from w and 566 ft from s line. S. P. Shelburne, Oklahoma City, Okla., L. Martin, 60, 2, Chisum Sur, 330 ft from s and w lines. Barnsdall Oil Co., Tulsa, Okla., J. G. McGrede, 109, 8, D. Sanchez Sur, 330 ft from n and w lines. Lambert & Hynes, Tyler, D. Hilburn, 35, 1, W. P. Chisum Sur, 400 ft w of center of e line. Petroleum Finance Corp, Longview, W. D. Lacy, 86, 4, E. H. Grisham Sur, 330 ft from s and 577 ft from w line. Vierson & Kingwood Oil Co., Okmulgee, Okla., Geo. Muckleroy, 30, 4, Jno. Caruthers Sur, 1305 ft from n and 230 ft from e line. Stroube & Stroube, Corsicana, J. M. Bumpas, 33, 2, Castleberry Sur, 330 ft from s and e lines. Danciger Oil & Refg. Co., Fort Worth, G. S. Mattox, 39, 1, D. Sanchez Sur, 330 ft from n and w lines. East Texas Loan & Investment Co., Dallas, Geo. Anderson, 12, 1, C. H. Alexander Sur, 150 ft from n and w lines. Edwards Drilling Co., Houston, J. W. Starr, 12½, 1, D. Sanchez Sur, 330 ft s of center of n line. Bessie De Mayo, Kansas City, Mo., E. Benson, 34, 3, W. P. Chisum Sur, 330 ft from s and w lines. Henry Yeager, Dallas, Geo. Anderson, 15, 1, C. H. Alexander Sur, 150 ft from s and w lines. Devonian Oil Co., Tulsa, Okla., L. C. Ingram, 80, 7, W. E. Pasteur Sur, 330 ft from s and e lines. Byrd-Frost Inc., Longview, M. B. Hughey, 105, 5, L. B. Outlaw Sur, 330 ft from s and 330 ft from se line. Houston Oil Co., Houston, J. S. Elder, 16, 1, M. Van Winkle Sur, 330 ft from w and 220 ft from s line. Lucey Pet. Co., Longview, McHaney, 39, 3, H. Hathaway Sur, 330 ft from s and w lines. Invincible Oil Co., Gladewater, Weis, 66, 2, Armendaris Sur, 1200 ft from n and 300 ft from w line. Lucey Pet. Co., Dallas, Kinsel, 47, 2, Kirk Sur, 330 ft from s and w lines. Shano Oil Co., Longview, Mrs. P. Hopkins, 31, 3, Wm. Castleberry Sur, 250 ft from n and 330 ft from e line. A. G. Fritz, Wichita Falls, Anderson, 13, 2, G. W. Hooper Sur, 150 ft from w and 290 ft from s line. Vierson & Kingwood Oil Co., Okmulgee, Okla., Geo. Muckelroy, 30, 3, Jno. Caruthers Sur, 920 ft from n and 300 ft from e line. Sun Oil Co., Dallas, J. L. Reppond, 58, 3, D. Sanchez Sur, 660 ft n of No. 2. J. C. Gray, 101, 6, D. Sanchez Sur, 878 ft from n and 330 ft from w line. Wm. Pentecost, 131, 3, M. Scott Sur, 660 ft ne of No. 1. Joe Rollins, 2, 2, M. Scott Sur, 450 ft from w and 47 ft from s line. Arkansas Fuel Oil Co., Shreveport, La., G. B. Tenery, 20, 2, Wm. Robinson Sur, 255 ft from n and 990 ft from w line. Gulf Prod. Co., Houston, Wm. Clayton, 50, 3, L. B. Outlaw Sur, 660 ft e of No. 2. G. W. Culver, 64, 7, M. Van Winkle Sur, 713 ft se of No. 2. A. A. King, 55, 3, Jno. Moffitt Sur, 330 ft from n and 231 ft from w line. Lacy-Snider, 107, 7, Wm. Castleberry Sur, 330 ft w of center of e line. C. Fishburn, 200, 7, F. W. Johnson sur, 330 ft from n and 990 ft from e line. W. Holt, 201, 7, J. Blair Sur, 330 ft from n and 576 ft from e line. S. Hilburn, E, 242, 17, Jno. Wilkinson Sur, 330 ft from w and 345 ft from s line. S. Hilburn, A, 85, 18, L. B. Outlaw Sur, 660 ft e of No. 15. A. V. Bacle, 69, 2, G. W. Hooper Sur, 158 ft from n and 409 ft from w line. Empire Gas & Fuel Co., Gladewater, J. Bander, 93, 5, W. H. Castleberry Sur, 330 ft from n and e lines. T. W. Lee, 187, 3, F. W. Johnson Sur, 775 ft from s and 330 ft from e line. O. Lockhart, 75, 3, P. W. Warraner Sur, 330 ft from n and w lines; 4, 330 ft from s and w lines. Sinclair Oil & Gas Co., Fort Worth, A. A. King, B, 147, 2, Jno. Keiser Sur, 460 ft from w and

330 ft from n line. A. A. King, B, 337, 13, A. Cormack Sur, 600 ft w of No. 3; 11, 2230 ft from w and 1618 ft from s line. Simms Oil Co., Dallas, A. Christian, 23, 2, G. W. Hooper Sur, 990 ft from n and 224 ft from e line. Amerada Pet. Corp., Fort Worth, E. Burnsides, 100, 5, F. W. Johnson Sur, 997 ft s of No. 3; 4, 997 ft n of No. 3; 3, 1994 ft from n and 1418 ft from w line. M. Killingsworth, 100, 5, H. Hathaway Sur, 780 ft from e and 346 ft from s line. Shell Pet. Corp., Dallas, E. W. Willoughby, 57, 7, M. Van Winkle Sur, 100 ft from s and e lines. Magnolia Pet. Co., Dallas, H. B. Zeigler, 120, 4, P. McAnally Sur, 1650 ft from n and 330 ft from w line. M. T. Cole, 104, 2, T. Johnson Sur, 330 ft from s and e lines. H. B. Zeigler, 120, 5, P. McAnally Sur, 990 ft from n and 330 ft from w line. Wheelock & Collins, Corsicana, Wm. Clayton, 73, 4, L. B. Outlaw Sur, 990 ft from w and 330 ft from s line; 3, 960 ft from w and 330 ft from n line. Stanolind Oil & Gas Co., Fort Worth, Cox & Hamon, 72, 5, W. H. Castleberry Sur, 1040 ft from n and 335 ft from e line. H. Key, 90, 5, W. H. Hart Sur, 1600 ft from w and 330 ft from s line. Atlantic Oil Prod. Co., Dallas, M. Hays, 207, 5, W. C. Alvice Sur, 330 ft from s and e lines. W. T. Burnsides, 231, B7, F. W. Johnson Sur, 330 ft from n and 990 ft from e line. M. B. Hughey, 105, 6, L. B. Outlaw Sur, 815 ft from e and 775 ft from s line.

GRAY COUNTY—Texas Co., Fort Worth, J. E. Wright, 160, 7, S 13, B 3, I&GN Sur, 330 ft from n and w lines se¼. Shamrock Oil & Gas Co., Shamrock, Saunders, 160, 3, S 40, B 3, I&GN Sur, 330 ft from s and w lines of nw¼. Barker, et al, Sayre, Okla., W. P. Dial, 80, 1, S 48, B 25, H&GN Sur, 330 ft from n and e lines of nw¼. Phillips Pet. Corp., Bartlesville, Okla., J. E. Wood, 80, 6, S 13, B 3, I&GN Sur, 330 ft from n and e lines n½ sw¼.

GRAYSON COUNTY—M. J. Mitchell, Oklahoma City, Okla., D. R. Utiger, 160, 1, P. P. Cady Sur, se corner.

GOLIAD COUNTY—Humble Oil & Refg. Co., Houston, M. Fromme, 118, 1, G. W. Kersey Sur, 450 ft from s and 150 ft from sw line.

GONZALES COUNTY—Nassamer, Gorden & Waldrop, San Antonio, B. Botts, 320, 2, B 56, Gonzales Sur, 2500 ft from w and 650 ft from s line.

GUADALUPE COUNTY—Jno. F. Camp, San Antonio, S. E. Denman, 50, 2, Wm. Arrington Sur, 150 ft from s and 350 ft from e line.

HARDIN COUNTY—Rio Bravo Oil Co., Houston, Fee, 158, C134A, J. F. Cotton Sur, 180 ft from e and 50 ft n of No. 131A.

HARRIS COUNTY—Sun Oil Co., Dallas, R. L. Blaffer, 292, 51, R. Dunman Sur, 100 ft s of No. 50.

HOWARD COUNTY—Sinclair Oil & Gas Co., Fort Worth, Dodge, 640, 2, S 11, B 30, Twp. 1S, 330 ft from w and 2313 ft from s line. Merrick & Lamb, Ardmore, Okla., O. Chalk, 160, 3, S 125, B 29, W&NW Sur, sw cor of ne¼.

JACK COUNTY—Brazos River Gas Co., Dallas, Mineral Wells, D. C. Clayton, 125, 1, Knight & Young Sur, 2200 ft from w and 610 ft from s line.

JEFFERSON COUNTY—Barney Thames, Houston, J. Chaison, 5, 1, B 1, Jno. Douthitt Sur, 50 ft from w and 100 ft from n line.

LIBERTY COUNTY—Bain & Rheubotham, Houston, J. M. Neal, 50, 1, E. Tanner Sur, 850 ft from e and 300 ft from s line.

LOVING COUNTY—C. A. Martin, Eastland, H. Freels, 25, 1, S 92, B 1, W&NW Sur, 330 ft from n and w lines. G. A. Corey et al, Pecos, Wheat, 80, 1, S 3, B 2, W&NW Sur, 330 ft from s and e lines.

MATAGORDA COUNTY—Powers Prod. Co., Houston, N. R. Myers, 18, 2, B 6, Wm. Hadden Sur, 300 ft e of No. 1.

MONTGOMERY COUNTY—Heep Oil Corp., Houston, M. E. Roberts, 387, 1, W. H. Harrison Sur, 439 ft from e and 413 ft from s line. Strake Oil Co., Houston, South Tex. Dev., 1476, 2, T. Slade Sur, 2400 ft s of No. 1.

PALO PINTO COUNTY—Gholson & Gordon, Ranger, Cain, 203, 1, S 32, B.C.S.L. Sur, 450 ft n and 1350 ft from w line. F. L. Walker, Strawn, G. E. Binnings, 1, Strawn Sur, center of Blk. 14.

RUSK COUNTY—Pure Oil Co., Fort Worth, W. H. Silver, 983, 4, M. Walker Sur, 850 ft n of No. 3; 3, 412 ft from w and 660 ft from s line. Karona Oil Co., Dallas, J. N. Peterson, 43, 2, R. W. Smith Sur, 555 ft from n and 449 ft from e line. McClanahan & Venable Oil Co., Tyler, J. A. Birdwell, 150, 8, M. J. Pru Sur, 976 ft w of No. 7. Jim Cloud Inc., Tyler, S. Stone, 26, 3, M. J. Pru Sur, 225 ft from n and 967 ft from e line. Stidham & Thrasher, Tyler, W. P. Keeling, 4, 1, F. Cordova Sur, center. Cullen Oil Co., Henderson, A. Thrash, 9, 2, M. J. Pru Sur, 150 ft from n and w lines. Rhoads Drilling Co., Fort Worth, S. Brox, 20, 1, Thos. Grace Sur, 287 ft from w and 410 ft from s line. Perry, Woody & Boller, Wichita Falls, A. Thrash, 31, 4, J. Ximinez Sur, 150 ft from s and e lines. McClanahan & Venable Oil Co., Tyler, J. A. Birdwell, 149, 7, M. J. Pru Sur, 330 ft from n and e lines. Fair & Thompson, Tyler, W. E. Wiley, 25, 1, J. Ximinez Sur, 330 ft from s and w lines. Kirby Pet. Co., Dallas, Houston, J. Williams, 65, 4, T. J. Martin Sur, 330 ft from s and e lines. Cockburn & Boone, Arp, A. Green, 122, 4, F. Cordova Sur, 330 ft from s and w lines. Combined Oil Interests, Tyler, G. W. Eaton, 145, 6, G. Cordova Sur, 2000 ft from e and 330 ft from s line. Mills Bennett Prod. Co., Houston, W. J. Brightwell, 9, R. E. Winn Sur, ne corner. Federated Oil Co., Tyler, Mayfield-Alford, 16, 4, J. Ximinez Sur, 200 ft from n and w lines. (Amended location), R. W. Fair Oil Co., Tyler, Fee, 27, 2, M. J. Pru Sur, 162 ft from n and 330 ft from w line. Royal Pet. Corp., Dallas, T. H. Goforth, 41, 3, Tutt & Lindley Sur, 35 ft from n and 165 ft from sw line. Bert Aston, Oklahoma City, Okla., J. R. Alford, 46, 4, T. J. Moore Sur, 220 ft from e and 210 ft from s line. Golding-Murchison Oil Co., Dallas, H. L. Griffin, 85, 4, M. V. Pena Sur, 494 ft from n and 1123 ft from e line; 3, 793 ft w of No. 4. Pinkston, C, 84, 4, M. V. Pena Sur, 479 ft from n and 1002 ft from e line; 3, 772 ft w of No. 4. M. Brock, 12, 2, R. W. Smith Sur, 264 ft n and 150 ft from w line. Humble Oil & Refg. Co., Houston, J. E. B. Snead, 104, 2, A. Melton Sur, 660 ft nw of No. 1. H. Sexton, C, 84, 3, M. McCabe Sur, 720 ft s of No. 2. R. T. Cameron, 50, 2, T. J. Martin Sur, 330 ft from n and e lines. W. L. Price, 200, 12, Melton & Scott Sur, 330 ft from n and 990 ft from e line. C. W. Wilson, 96, 2, T. J. Martin Sur, 330 ft from s and w lines. S. S. Laird, B, 347, 16, J. Lewis Sur, 330 ft from w and 1249 ft from s line. Wheelock & Collins, Corsicana, D. Wells, 220, 9, H. Hobson Sur, 400 ft from e and 330 ft from s line; 8, M. Y'Barbo Sur, 660 ft se of No. 7; 10, 1080 ft from n and 990 ft from w line. H. L. Hunt, Tyler, R. J. Vinson, B, 21, 1, T. J. Moore Sur, 252 ft from n and 330 ft from w line. W. P. Moore, 82, 6, M. J. Pru Sur, 660 ft s of No. 2. S. A. Plowman, 48, 4, F. Cordova Sur, 330 ft from s and w lines. H. C. Maxwell, 111, 5A, F. Cordova Sur, 100 ft from e and 800 ft from s line. Gulf Prod. Co., Houston, S. B. Stone, 107, 4, D. W. Campbell Sur, 990 ft from n and 330 ft from e line. T. B. Cashey, 125, 6, H. B. Dance Sur, 375 ft from n and 222 ft from e line. W. Florence, 165, 10, J. S. Whiteman Sur, 330 ft w of center of e line. Stanolind Oil & Gas Co., Fort Worth, R. G. Mason, 100, 3, J. B. Cadena Sur, 330 ft from s and e lines, Texas Co., Shreveport, La., A. W. Kersh, 211, 2, E. B. Fowlkes Sur, 330 ft from n and w lines. Sinclair Oil & Gas Co., Fort Worth, W. E. Kinney, 279, 26, B 32, J. B. Cadena Sur, 982 ft from n and 480 ft from e line, Blk. 32. Mid-Kansas Oil & Gas Co., Shreveport, La., H. L. Griffin, 65, 2, J. Ximinez Sur, 262 ft from n and 330 ft from e line; 3, 330 ft from s and w lines. Clay, 130, 1, M. V. Pena Sur, 370 ft from n and 330 ft from w line.

SMITH COUNTY—A. U. McCutcheon, Arp, J. Attaway, 25, 1, D. Shaw Sur, 259 ft from n and 330 ft from e line. Pine Grove Oil Co., Tyler, S. S. Cook, 30, 3, J. Vargas Sur, 431 ft from n and 150 ft from e line. Arcadia Refg. Co., Tyler, J. R. Green, A, 57, 3, Jas. Jordan Sur, 330 ft from n and w lines. C. B. Bunte Inc., Tyler, A. S. Jarvis, 41, 2, S. Dexter Sur, 330 ft from s and e lines. Sinclair Oil & Gas Co., Fort Worth, A. S. Jarvis, C, 256, 8, M. S. Coy Sur, 1095 ft from s and 330 ft from e line. B. Wilson, 65, 4, Jas. Jordan Sur, 330 ft from e and 1180 ft from s line. A. S. Jarvis, C, 256, 7, M. S. Coy Sur, 760 ft e of No. 6. G. Patterson, 162, 3, J. Vargas Sur, 330 ft from n and e lines. Jack Wiley, 21, 2, Jas. Jordan Sur, 330 ft from n and 269 ft from e line. Texas Co., Shreveport, La., A. S. Jarvis, 115, B 2, M. S. Coy Sur, 660 ft s of No. 1. Mid-Kansas Oil & Gas Co., Shreveport, La., M. L. Thompson, 98, 7, I. Moore Sur, 330 ft n of center of s line. Sun Oil Co., Dallas, O. W. Knight, 264, 10, I. Moore Sur, 104 ft from e and 583 ft from s line. H. L. Hunt, Tyler, S. S. Cook, 20, 2, Jas. Jordan Sur, 330 ft from n and 265 ft from e line.

SHACKLEFORD COUNTY—R. C. McCarter, Rising Star, L. Tuton, 300, 1, 657, TE&L Sur, 1500 ft from n and 450 ft from w line. Albany Oil Co., Breckenridge, E. A. Jeter, 80, 2, S 14, B 11, T&P Sur, 440 ft w of No. 1.

STEPHENS COUNTY—A. E. Thomas, Fort Worth, Manning, 40, 1, S 42, B 4, T&P Sur, 155 ft e of center of w line.

STARR COUNTY—Kirk Cornell, McAllen, Kelsey-Bass, 480, 1, S 8, Por. 75-76-77, 150 ft from n and 1306 ft from w line.

THROCKMORTON COUNTY—A. A. Michaels, et al, Olney, McKeichan, 160, 1, J. M. Corgadale Sur, 150 ft from e and 2211 ft from s line.

UPSHUR COUNTY—Rancho Oil Co., Fort Worth, J. K. Edwards, 106, 6, D. Ferguson Sur, 330 ft from e and 990 ft from n line. Conservative Oil Co., Dallas, C. J. Mackey, 145, 1, S. Harrell Sur, 550 ft from e and 330 ft from s line. Danciger Oil & Refg. Co., Fort Worth, T. B. Stinchcomb, 84, 4, M. Mann Sur, 1980 ft from s and 330 ft from w line; 3, 660 ft n of No. 2; 2, 660 ft n of No. 1. California Pet. Co., Shreveport, La., I. Walker, 120, 6, S. Harrell Sur, 330 ft s of center of n line.

WICHITA COUNTY—G. W. Cooper, Wichita Falls, T. J. Waggoner, 40, 19, S 8, B 6, GH&H Sur, 200 ft w of No. 18.

WEBB COUNTY—Phillip Rosenburg, Laredo, Laurel, 40, 2, S 271, B 8, 150 ft from n and w lines.

WARD COUNTY—G. R. Thomas, Fort Worth, J. B. Bennett, 160, 1, S 16, B 34, 330 ft from nw and sw lines. Richardson & Kelsey, Fort Worth, Edwards-O'Brien, 170, 9, S 5, B F, CMMM-D&A Sur, 1112 ft from n and 990 ft from w line.

WISE COUNTY—M. R. Mead, et al, Dallas, A. C. Coffman, 160, 1, S 42, A. C. Coffman Sur, 150 ft from n and 750 ft from w line.

WINKLER COUNTY—Harry Adams Co., Midland, Scarborough, 40, 1, S 1, B 77, School Sur, 660 ft from n and e line of section.

WILLIAMSON COUNTY—G. B. Peterman, Taylor, K. Guentzel, 75, 1, H. Cook Sur, 300 ft from e and 897 ft from s line.

YOUNG COUNTY—C. C. Williams, Jean, J. W. Bishop, 90, 1, 870, TE&L Sur, 750 ft from e and 150 ft from n line.

ZAPATA COUNTY—The Major Co., San Antonio, P. Benavides, 640, 1, S 12, H&GN Sur, 150 ft from n and w line of sec. McGinley Corp., Fort Worth, J. Bustamente, 105, 1, No. 35, Comitas Sur, 450 ft from w and 150 ft from s line. G. T. Montemayor, 40, 1, S 64, B 2, 450 ft from w and 150 ft from s line. Lobo Oil Co., Laredo, G. T. Montemayor, 40, 3, S 64, B 7, 491 ft from n and 150 ft from e line.

NORTH and WEST TEXAS

Delayed Archer Wildcat Given Initial Test

Deep Test Planned for Grayson County

H. H. KING, *Staff Representative, Fort Worth, Texas*

100-Barrel Pumper Opens New Archer-Wichita Production

Wichita Falls, Texas.—A new oil pool on the Archer-Wichita County line has been uncovered in the 1800-foot sand horizon by the Fain-McGaha Oil Corporation's Fee 1, which is showing for a 100-barrel pumper after drilling two feet into the sand to a total depth of 1791 feet. This discovery well is located in the northeast corner of Section 3, Denton County School Lands Survey No. 3, and about 1½ miles northeast of the town of Holliday. It is situated less than a mile east of a pool that is credited with having yielded more than 1,000,000 barrels of oil.

Preliminary pumping gauge given J. J. Perkins and L. H. Cullum's C. L. Abercrombie 1, which opened a new oil area from the shallow lime horizon in south central Archer County in March, credits the well with making 20 barrels of oil and three barrels of water during the first 2½ hours. This wildcat is producing from lime at 1189-94 feet. Completion was delayed because of the oil string of casing developing a split joint, necessitating the landing of 5 3/16-inch pipe at 1187 feet to cut off upper water. Acreage deals that followed this strike involved a number of drilling obligations, and a fairly active development program is anticipated.

Ed. C. Lawson and others have announced that a Canyon lime test will be drilled on the W. L. Andrews ranch, located about five miles southwest of the 2200-foot producers in the Chalk Hill field, Archer County. This proposed 2300-foot test will be less than a mile west of Waggoner & Gose's Young-Langford 1, Section 135, and the latter developed traces of oil in the Canyon horizon before being abandoned as a failure last December at 2300 feet.

Steel derrick has been erected by Verne Dumas Petroleum Company of Van Alstyne, Texas, to drill a deep test in southeastern Grayson County, and near the center of a block of approximately 28,000 acres. This unusually large block of leases was obtained by the company contracting to drill a 7000-foot test. The company plans to acquire a rig and use its own crew in carrying out the drilling project. The location has been made on the M. E. Williams 126-acre tract, Solomon Nix survey, Abstract 908, being 360 feet out of the southwest corner of the lease.

Dallas, Texas.—Annual meeting of the Texas Division of the Mid-Continent Oil & Gas Association is to be held here on the morning of April 21, according to Edward T. Moore, president. Election of officers for the ensuing year is to be held at this meeting.

Completing New Dumas Well With Its Offset a Failure

Amarillo, Texas.—A new producer for the Dumas oil area in Moore County, Texas Panhandle, was in process of completion at the close of the past week, and a dry hole appeared likely to result from a diagonal offset. Sunset Oil Company's (J. M. Baldridge and John J. Sherrin), R. O. C. Brumley-Gulf 1, located in the northwest corner of the southwest quarter of section 360, block 44, H&TC Ry. survey, filled 1900 feet with oil from lime at 3461-3495 feet. Approximately 2,000,000 cubic feet of gas is showing with the oil. Plans are to deepen, then shoot the lime horizon. The well has a surface elevation of 3579 feet. Gulf Production Company farmed out the west half of Section 360 to the above interests, retaining an over-riding royalty interest.

Magnolia Petroleum Company's Arthur Nield 1, located in the southeast corner of the north one-half of Section 361, and a northwest offset to the above semi-completion, was drilling below 3615 feet with little prospects of making an oil well. Nield 1 encountered show of gas at 3416 feet, and trace of oil at 3421 feet. It has a surface elevation of 3575 feet. Both of the above tests were drilled as offsets to Shamrock Oil & Gas Company's W. Coffee 1-C, which made 100 barrels initial after shot in lime at 3450-3595 feet.

Shamrock Oil & Gas Company is reported to have relinquished its option to acquire Apache Refining Company's (Sunray Oil Company) 5000 barrel refinery, located north of the Dumas field, as result of the refusal of the Texas Railroad Commission recently to treat the Dumas area as separate from the Panhandle district. Shamrock Oil & Gas Company applied for such a classification for the area, with a maximum production allowance of 10,000 barrels daily. Abandonment of plans to reopen the refinery has resulted in Sunray Oil Company's oil being diverted to Phillips Petroleum Company.

North and West Texas Field Developments

NORTH TEXAS

ARCHER COUNTY

Company, Well and Location—	Bbls.	Depth
Lester T. Burns et al, W. J. Logan 1	5	1180
Easter Oil Co., A. L. Churchwell 2	*	1176
Holbrook & Woods, Perkins 1	*	756
Jones & Holcomb, Thomas 2	15	649
Geo. L. Pace et al, Green 3	75	1198
Underwood Drilling Co., Ward 1	*	1230

CLAY COUNTY

Roy Johnson et al, H. Boddy 1	*	1875

YOUNG COUNTY

R. S. Boling et al, Brown 1, Sec. 290	30	566
Brown 2, Sec. 290	*	620
E. P. Boling et al, Clark 1, Sec. 212	*	950
Cavin & Lowery, Hill 1, Sec. 195	*	1130
W. R. Cooper et al, Dunagan 4, Sec. 163	10	1003
Tom Holcomb et al, Carpenter 1, Sec. 164	18	889
W. N. Maer et al, Routon 1, Sec. 266	*	840
Sinclair-Prairie Oil Co., O. M. Lisle 1	*	3130
United Producers Co., Morris 7, Sec. 254	*	750
Wooten & Reed, Swain 2, Sec. 1466	40	693

WEST TEXAS

REEVES COUNTY

May & Milton et al, J. B. Ellis-Patterson 1	*	4133

SOUTH TEXAS

Three New Fields Added
McFadden Gas Area Extended
Two Pettus Areas Connect
Jim Wells Deep Test
Interests

EARL POST, ***Staff Representative, San Antonio***

Two More New Fields Opened In Northwest Duval County

San Antonio, Texas.—Mirando district's barrage of oil and gas discoveries continue with the northwestern portion of Duval County holding the spotlight. During the last 10 days, two more producing spots were opened.

The newest is Capps and Smith's Duval County Ranch Lands 1, nearly two miles southwest of the lower Government Wells field. The well shows for around 1,000,000 cubic feet of gas from 2350-55 feet. It is to be deepened a few feet in effort to find oil production.

The other discovery was Seacord & Putnam et al's J. W. Johnson 1, two-thirds of a mile north of the town of Rosita, and 2½ miles north of the original Government Wells field. It is making 10,000,000 cubic feet of oily gas from 1567-74 feet.

The Capps and Smith well was brought in April 13, but is was reported that liner is now being pulled for the deepening process. In many cases in the Government Wells field, a producer shows only a small amount of gas or oil when drilled into the sand, but improves when deepened into another sand immediately underlying it. Some of the best producers in the field have recorded such actions.

Exact location of the new Capps and Smith well is 200 feet south and east from the north corner of the southwest one-half of the east one-quarater of Section 576. It is 154 feet from Southern Gas Company's gas pipe line.

The significance of this particular discovery is that it is lower than the producing horizon in the Government Wells field by at least 50 feet. Being west and on a line with the gassers in the field, it would be expected that the formation would run higher. Magnolia Petroleum Company's J. O. Wilson 6, gasser, the most westerly well in the field, found the sands at 2230-36 feet and 2248-72 feet. This would indicate a new field rather than an extension. It, however, will be noted that the Government Wells field is already divided into a north and south producing area and this new discovery may be another producing spot in the present prolific producing district.

Wells in the Government Wells field come in for an average of 350 barrels a day and up. Some wells make as high as 1500 barrels initial, but are choked down.

Seacord and Putnam's discovery also has an interesting feature in the fact that it opens an entirely new sand for the district, much shallower than the Government Wells area and several miles to the south and the S. R. C. pool, more than seven miles northwest. SRC production comes from 1730 to 1750 feet. This field, located in Section 296, was discovered in the heart of a block controlled by the Vacuum Oil Company and SRC Oil Corporation.

Interesting developments will result in the near future to further define the area discovered by Seacord and his associates. J. S. Suttle spudded in and shut down L. Bennett 1 to drill a water well. He has resumed operations by the time of this writing. The location of this well is 150 feet from the north and east lines of the northeast quarter of the southwest quarter of Section 44, which is one half mile southeast of the Johnson gasser, also in Section 44. The exact location of Seacord & Putnam et al's Johnson well is 150 feet from the south and west lines of the northwest quarter of the northwest quarter of Section 44. The new test is to be carried to the 1567-foot pay or to the Government Wells horizon.

Other locations have been made to the southwest of the new Capps and Smith well, which are a bit too far to throw any material light on the development there. John F. Camp's Weil 1, Section 570, less than two miles south of the gasser, is down 1520 feet and should reach the horizon within a few days. A location has been made by Smith et al on Section 574, about one half mile east and slightly north of the new well.

In studying the development along this strike line, it is well to remember the success of Magnolia Petroleum Company in its Hahl 1, Section 51, a little more than two miles west of the town of Rosita. This well tested salt water in the Government Wells sand at 2339-51 feet, but picked up a gas sand at 4070-90 feet, which showed several million cubic feet of gas daily. It was completed late in March, 1927. The well indicates further production in this particular sector from the deeper horizons.

Humble Oil & Refining Company drilled to 7725 feet in Kohler 50 in the Kohler field, about 10 miles southwest of the Government Wells field and on the Webb County line. The well was abandoned in the Mount Selman. It showed salt water and oil in the regular sand around 1860-87 feet.

Heard and Heard's Goodrich 1, tract 5, Porcion 81, two and one-half miles northeast of Rio Grande City, spraying oil from 1368-82 feet. It opened a new field March 31. Photo by John H. Clopton, geologist of San Antonio.

McFadden Gas Area Extending Northeast

San Antonio, Texas.—T. B. Slick Estate, Inc.'s McFadden 2, J. Varin Survey, Victoria County, cored a gas sand at 3499-3508 feet, which showed 500 pounds pressure on a one-fourth-inch choke in five minutes. It is 3500 feet north of McFadden 1, which made a gasser in the same horizon. The well is the northeasterly well in the McFadden field. It is drilling ahead, now being below 3600 feet.

The Texas Company's A. M. McFadden 4, 2800 feet north of the McFadden 3, oil producer in the J. M. Rine Survey, blew out at 2840 feet and ran wild sev-

eral hours before bridging over. The well also is to be drilled deeper.

Across the Refugio line, Humble Oil & Refining Company was reaming below 3300 feet in O'Conner 2, in the J. Keating Survey. It was attempting to bring in O'Conner 1, a work-over, after drilling out part of the cement used to cement back. It is 4150 feet deep. The latter wells are on the southwest end of the large structure through Refugio and Victoria Counties.

Connection of Two Pettus Areas Indicated

San Antonio, Texas.—Connection of the Pettus townsite with the southern extension of the Pettus field, Bee County, seems possible through the showing of the Pettus Oil & Gas Company's Mauldin 2. The well is flowing around 250 barrels daily from 3878-86 feet, showing 100 pounds pressure on the tubing and 300 pounds on the casing.

The well is 647 feet north of the south line and 150 feet east of Medio Creek. It is a short distance north of the first Mauldin well, which showed for a producer in the early days of the field's development, but which was lost while attempts were being made to complete. An offset is necessitated for the Slick Estate on the George Ray tract, which also is in the Kerr Survey.

It is interesting to note that there are dry holes in every direction from the well with only a small portion not virtually defined.

United Production Corporation's Ray 40 and 41 are making rapid progress drilling below 2000 feet and 3000 feet, respectively. They are in the old pool.

Jim Wells Deep Test Has Another Show

San Antonio, Texas.—Magnolia Petroleum Company has encountered another interesting showing in its deep prospect in Jim Wells County. It is the A. A. Seeligson 1, in the northwest corner of lot 5, block 11, A. Ramirez Survey, 15 miles south of Ben Bolt.

The newest show is in a sand topped at 5276 feet and cored to 5281 feet. It is being cored deeper and should the showing continue as attractive as the top, casing likely will be set.

It will be remembered that this well found a sand at 3413-22 feet in February, which showed for a producer and attempts were made to complete the well. Another sand at 4930-33 feet also showed for a producer, but the final attempt to complete failed.

Another Edwards Lime Field Uncovered in Caldwell County

San Antonio, Texas.—C. J. Webster Oil & Gas Company of San Antonio, apparently has discovered another Edwards lime field in the interesting section of Caldwell County along the Balcones fault. April 14, 6⅝-inch casing was being moved to the company's W. W. McCrory 1, 7½ miles southeast of Lockhart, to test a showing encountered in the Edwards lime.

The well topped the Edwards at 2278 feet April 13, and drilled into the formation one foot. Considerable oil flowed into the slush pit and many gas bubbles were present. The oil is of 35 to 36 gravity and is similar to other Edwards lime oil.

The exact location of the well is 600 feet west of the southwest corner of the Abe Luce 54-acre tract and in the northeast corner of the McCrory 110-acre tract, McNeil survey. The well is about 12 miles northeast of Bob Rose's Pierce 1, which is showing for a large producer in a crevice in the Austin chalk.

Webster organization controls about 400 acres around the well along the fault.

A third strike line, northeast and southwest, is being defined by several important recent discoveries. The Bob Rose well is midway between the Luling and Salt Flat fields and 2½ miles northeast of Luling, both Edwards lime fields. The McCrory well is midway between the Branyon and Buchanan fields, also on a northeast line.

The log of the lower formations in the well follows: Hard chalky shale, 1865 to 2008 feet; hard Austin chalk, 2008 to 2110 feet; Eagle Ford shales, 2110 to 2129 feet; Buda lime, 2129 feet to 2190 feet; Del Rio clay, 2190 feet to 2233 feet; Georgeown lime, 2233 feet to 2278 feet; top of Edwards lime, 2278 feet; total depth 2279 feet.

The fee on this 110-acre tract is owned by W. W. McCrory, judge of the 94th District Court of Bexar County in San Antonio.

Bob Rose has been successful in removing all of the drill stem from his Pierce test in the Solomon Seal survey. Thirty-nine joints of drill stem were stuck in the hole when it blew in March 30. After working on the well nearly two weeks, most of the drill pipe was recovered, several points being held in the bridge near the bottom of the hole. The hole finally was cleared and casing was run April 14. The well likely will be drilled in the latter part of this week.

A flurry of excitement was created when the well topped the Austin chalk and blew in at 2114 feet, possibly from a crevice. Indications are for a high initial production.

Rose has moved on the G. C. Walker 1, about one-half mile northeast of the Pierce well. Meyer Exploration Company drilled the well to 160 feet and has been shut down for months. It has been taken over by Rose for completion.

An interesting test is M. O. Rayor et al's Kreuz 1, midway between McCrory and Pierce tests. The location is described as 450 feet north from the southwest corner of the J. P. McCarley survey, thence 150 feet west from the west line at right angles in the Samuel Shupe survey.

George Sullivan has made a deal with the Shell Petroleum Corporation and several other large holders of acreage in Caldwell County near the Gonzales County line, whereby he will drill an Edwards lime test. It is the Plimsoll 1, located 2800 feet from the southwest and 190 feet from the northwest line of the M. W. Dennis survey. Rig is now being moved in.

San Antonio, Texas.—John F. Camp and Stanolind Oil & Gas Company were running tubing in King 1, Section 23, Richard King Farm Lot subdivision, Nueces County, preparatory to swabbing. The well has a six-foot sand at 2893-99 feet, which is showing for a huge gasser. It is six miles northwest of the Agua Dulce field and four miles northwest of the town by that name. It is 600 feet east of the Jim Wells County line. The well opens a new field.

San Antonio, Texas.—Cement failed to hold in Jacob, Buzzini and Pickett, Inc.'s Jacob 2, four miles north of the Calliham field, in McMullen County. The well had a showing of oil in a series of sands and shells from 948 to 962 feet and casing was set for a test. The well has been recemented and it will be drilled in within a few days. It is 150 feet northwest of Jacob 1, a shallow gasser and in W. H. Jacob Survey No. 8.

South Texas Wildcat Drilling Report

ATASCOSA COUNTY — Feet

American Central O&G Co., McConnell 2, Blk. 138, Baker sur, move on to deepen 1660

BASTROP COUNTY

I. L. Champion, Owens 1, Cosner sur, 3 mi ne Elgin to sp ....
Marts & Beaven, R. L. Carter 1, Geo. Glasscock sur, 3 mi e Elgin, dr 1250
Schimmel & Batts, Trigg 4, Jas. Stewart sur, sp..... ....

BEE COUNTY

Barnsdall Oil Co. & Coquat, L. Roberts 1, Jno. Pace sur, Pettus-Cosden area, to sp..... ....
Gulf Coast Oil Co., Hicks 1, 300 ft w Nichols 1, Normanna, ru ....
Humble O&R Co., Laura Thompson 1, Garrett Roche sur, prep to wo 5310
J. L. Moody-Seagraves et al, B. Welder 1, H. Eyles sur, lcn ....
Texas Gulf Prod. Co., J. C. Wood 1, P. T. Irrigation Co. sur, to wo 5077
Webb Hearn 1, 1500 ft n Wood 1, P. T. Irrigation Co. sur, ru ....
United Prod. Co., George Ray 40, Thos Hanson sur, Pettus, dr 2650
Ray 41, Geo. A. Kerr sur, Pettus, dr..... 3310

BEXAR COUNTY

Alamo Nat'l Gas Co., G. J. Gembler 3, A. Menchaca sur No. 51, Eckert, sd 1172
Anderson, Ingersoll & Miller, Stenburg 1, 9 mi sw S. A., F. Rolen sur, set cas 700 ft, test sand..... 810
Chiquita Oil Co., E. H. Cooksey 3, J. W. Rialls sur, Cooksey sand, 1443-52 ft, 6⅝ inch cas set 1401 ft, shot, co.... 1613
R. Pollock 3, Rialls sur, lcn..... ....
Eckert & Son, Louis Brehm 1, Eckert, re-dr..... 40
Sandemer 10, Eckert, sp ....
L. W. Stieren, Annie Terrell 1, J. Martinez sur, dr..... 300

BROOKS COUNTY

Ed East et al, Rudolfo Garza 1, re-dr..... 85
Allen & Morris, Holbein-Wormser 1, Palo Blanco de Magallos Grant, Alta Mesa, lcn..... ....

CALDWELL COUNTY

Bob Rose, J. M. Pierce 1, Solomon Seal sur, 2½ mi ne Luling, top chalk 2050 ft, several jts dr stem lost in hole, hooked on, attempt to remove 2114
G. C. Walker 1, S. Seal sur, 1 mi n Pierce well, to re-dr.. 160
M. O. Rayor et al, Kreuz 1, Samuel Shaupe sur, 6 mi ne Pierce well, clear lcn..... ....
Geo. C. Sullivan (Shell), Plinsoll 1, M. W. Dennis sur, move in ....
C. J. Webster O&G Co., W. W. McCrory 1, John Neil sur, 7½ mi se Lockhart, dr..... 2300

DE WITT COUNTY

Pat Armstrong, E. T. Clark 1, Jose Santos sur, lcn.....

DUVAL COUNTY

John F. Camp, Weil 1, Sur. 57, 4 mi sw Gov't Wells, dr.. 1520
Capps & Smith, Duval Co. Ranch Lands 1, Sec. 576, sand 2350-55 ft, completed as small gasser 2355
Cole Pet. Co., Benavides 75' Blk 8, Sur. 9, Mariano Arispe Grant, Cole-Bruni, dr 3950
Duval Oil Corp., Bishop 9, Sec. 135, Gov't Wells, lcn..... ....
French Oil Corp., Lopez 1, Sur 731, 2 mi sw Foster-Reiter wells, lcn ....
O. W. Killam, W. R. Peterson 1, Sec. 1, SA&MC sur, sd.. 2725
Nassley & Hine, Duval County Ranch Co. 1, Sec. 196, lcn.. ..
Smith et al, Duval County Ranch Co. 1 Sur. 574, lcn..... ....
Thomas & Tarver, Inc., Bishop Cattle Co. 7, Sur. 135, lcn.. ....
Trinity Drillers, Inc., Hagist 1, Sur. 122, ru..... ....

GOLIAD COUNTY

Benedum & Trees & Plymouth Oil Co., Parks 2, se cor BS&F Sur No. 8, sp..... ....
David E. Dunlap, A. T. Fromme 1, (old Rheimenschneider test) Peter Dexter Sur, 10 mi n Goliad, dr..... 2400
Humble O&R Co., L. Fromme 1, 3 mi n Goliad, lcn..... ....
Neal et al, Pettus 1, Pedro Trevino Sur, w Goliad, sd..... 4565
Slick-Seeligson, Inc., Allen 2, Obid Marshall sur, Slick pool, set surface cas, woc 380

GONZALES COUNTY

A. Edmiston, Mrs. J. Ward, D. McKay sur, ru..... ....
Johnson-Mattocks O&G Co., J. James 1, M. A. Williamson sur, to dr deeper 600

GUADALUPE COUNTY

Harry Bruner, Jim Sherrill 2, Geo. Allen League, near Staples, to move on rotary 190
J. W. Clark et al, Drummer, Francisco Carvajal sur No. 47, lcn ....
Humble O&R Co., Sue E. Denman 5-C, Wm. Arrington sur, Darst Creek, clear lcn ....
La Jita Corp. (John F. Camp), Sue E. Denman 2, Wm. Arrington sur, Darst Creek, set surface cas..... 52
Sal-Mar Oil Corp., A. F. Pfullman 1, L. Ballinger sur, between Seguin and Darst Creek, spud in..... ....

HIDALGO COUNTY

Dayle L. Smith Oil Co., Daskman 3, dr..... 1475
San Roman Oil Co., Lomax 1, Share 15, to re-dr..... 468

JIM HOGG COUNTY

H. D. Connley et al, Holbein 1, B7, Sur 7, Holbein sub, Animas sur, dr 2010
D. C. DeWitt, T. Gomez sur, Sec. 12, dr..... 1000

JIM WELLS COUNTY — Feet

F. A. Lain, V. Porter 1, Tract 25, near Sandria, dr..... 500
Mag. Pet. Co., Seeligson 1, Lot 5, Blk. 11, A. Ramirez sur, 15 mi s Ben Bolt, sand 5276-81 ft, core deeper..... 5281

KARNES COUNTY

Pickett et al, Meyers 1, to spud in..... ....
Nichols et al, Newberry 1, dr 200

KERR COUNTY

Evans & Gant, Jeff Love 3, J. Martinez sur, Sec. 1594, lcn ....

LIVE OAK COUNTY

Catlett & O'Neill, H. D. Miller 1, dk..... ....

McMULLEN COUNTY

Jacob, Buzzini & Pickett, Inc., Jacob 2, W. H. Jacob sur, No. 8, 150 ft nw Jacob 1, 4 mi n Calliham, sand and shells from 948 to 962 ft, cement gave away, re-cement..... 962

NUECES COUNTY

John F. Camp & Stanolind O&G Co., King 1, Sec. 23, Richard King Farm lots sub, 6 mi n Agua Dulce, elev 132 ft, top sand 3883 ft, dst 650 lbs 1½ min, 850 lbs in 3 min on ⅜-inch choke, move in 7-in. o. d. 35 lb. cas, dr out plugs and run tubing..... 3889
Gulf Coast Oil Co., Perkins & LaGasse 1, H. B. Shepherd sur, Saxet, dr 3100
James K. Kepley, C. D. Sevier 1, Por. 582-83-311, Saxet, dr 500
Rutherford Drlg. Co., J. Hunter 1, Saxet dk..... ....
Saxet Oil Co., Dunn 6, Saxet, fsh..... 6713

REFUGIO COUNTY

Humble, M. C. O'Conner 1, J. Keating sur, McFadden, wo, plug back 10 ft, dr out part of cement, testing..... 4155
M. C. O'Conner 2, J. Keathing sur, dr 3720
E. M. Jones, J. Mitchell 1-B, Refugio Town Lots, Refugio, dr 8300
United Prod. Co., Fox 2-B, Hughes & Brown sur, N Refugio, spud in ....
Fox 3-A, Hughes & Brown sur, N Refugio, sp..... ....

SAN PATRICIO COUNTY

Atlantic Oil Co., Welder 3, dr..... 4200
John F. Camp & Stanolind O&G Co., N. R. Jackson 1, Sec. 50, G. H. Paul sur, 3 mi n Edroy, re-dr..... 4850
United Prod. Co., Cage 3, White Point, dr..... 4220

STARR COUNTY

Allison & Roberts, K. Bass 1, Sec. 6, Por. 75-76-77, ru.... ....
Bennett Oil Co. (Pursley), Seabury et al 1, n end Los Olmos pool, Por. 75, to deepen..... 442
H. H. Davis, A. K. Bass 6, Sec. 6, Por. 76, Los Olmos, dr 325
John Dickens, Sec. 11, Por. 76, dr water well..... ....
Felder, Mitchell & Barnsley, A. K. Bass, Sec. 8, Los Olmos, dr 325
Hooks & Weaver, Kelsey Bass 6, Sur 6, Blk a, lcn..... ....
La Borde & Munday, K. Bass 1, Blk. 21, Por. 75, sp..... ....
Los Olmos O&G Co., Kelsey Bass 1-A, Sec. 11, ru..... ....
Patton & Matlock, K. Bass 1, Sec. 8, lcn..... ....
Quien Sabe O&G Co., Kelsey Bass 1, Sec. 8, Por. 76, dr.... 488
Rio O&G Co., A. K. Bass 2, Sur. 6, Los Olmos, dr..... 468
San Marcos Dev. Co., Ivey 10, Share 8, Por. 75-76-77, lcn.. ....
Star O&G Co., A. K. Bass 1, Sec. 8, lcn..... ....
Strayhorn Oil Co., Por. 80, lcn..... ....
Sullivan & Clements, Sec. 10, Por. 75, 76, 77, sp..... ....
Suttle & Rutherford, K. Bass 1, Sec. 6, lcn..... ....
Jack A. Tarver, Guerra 1, Tract 17, Por. 79, 2 mi w Heard well, prepare to move on heavier rig..... 850
A. F. Vannoy, Welsh 1, Pedernal Grant, dr..... 850

TRAVIS COUNTY

Bass & Fuch, R. A. Chadwick 1, A. C. Caldwell sur, ru.... ....
Fritz Fuch, Lutheran Church 1, T. Smith sur, lcn..... ....
Ray & Orth, Lundgren 1, L. Kimbro sur, lcn..... ....

VICTORIA COUNTY

Houston Oil Co., A. M. McFadden 1-A, IRR No. 20 sur, 2/3 mi nw Konrad, Telferner, dr..... 2000
T. B. Slick Estate, McFadden 2, J. Varin sur, sand 3499-3508 ft, show 500 lbs. pressure ¼ inch choke 5 min, dr deeper 3568
The Texas Co., A. M. McFadden 3, J. M. Rine sur, blew in, ran wild several hours, bridged over, to deepen..... 2840
Victoria Oil Co., G. Keeran 2, M. Leon sur, dr..... 3411

WEBB COUNTY

French Oil Corp., Benavides 7-A, Sur. 659, West Cole, ru.. ....
O. W. Killam, Ranchito (Bruni) 5, ru..... ....
Phillip Rosenberg, Laurel 2, Blk. 8, Sur 271, spud in..... ....

WILLIAMSON COUNTY

H. A. McLean, R. C. Miller 1-A, Manlove & Robinson sur, ru 100
McNeil et al, W. R. Lane 1, T. E. Shell sur, dr..... ....
G. B. Peterman, W. Galler 1, Sec. 7, HT&B Sur, 1 mi nw Thrall, testing 1493

ZAPATA COUNTY

E. K. Bateman, M. Garza Estate 1, Blk. 41, lcn..... ....
E. R. Black, M. Garza Estate 1, Blk. 11, ru..... ....
J. M. Blair & Son, Montemayor 1, Blk. 1, Sur 63, dr..... 1200
W. M. Lee, I. G. Trevino 1, Sec. 66, Blk. 7, testing..... 1360
Lobo Oil Co., Martinez 3, Sec. 64, Blk 7, lcn..... ....
Trevino Oil Corp., M. Trevino 1-C, Sec. 412, Blk 15, dr.. 1000

ZAVALLA COUNTY

Carpenter & Jenkins, J. Wolf 1, Sec. 7, Amos Beatty & Moulton sur, dr 775

GULF COASTAL FIELDS

Jefferson County Test Show Pleases Driller
New Dome Indicated in Harris County Test

WM. V. GROSS, *Staff Representative, Houston, Texas*

Harris County Wildcat Indicates Possible Dome

Houston.—Wood R. Alexander et al, drilling the wildcat Hermann Hale 1, in the R. A. Hanks Survey of Harris County, about nine miles northeast of Humble field, are logging formations in such a manner as to indicate possibilities of a dome in that vicinity, and, upon advice of major company exploration men, will carry the test deeper than contemplated in original plans.

Hermann Hale 1, located 1058 varas east of the southwest corner of the Littlefield Survey along the north line of the Hanks Survey, thence south 790 varas, thence south 74 degrees 26 minutes west 70 varas, showed for oil last week at 3306-3326 feet, with the best show in a saturated sand at 3315-18 feet.

Present depth of the well is 3691 feet, which is some 250 feet in the Marine Oligocene. Drilling stopped temporarily in a hard limestone. It is interesting to note that salt water was encountered just below the bottom of the above show and continued for 10 feet. Just below the formation yielding salt water, the bit penetrated a tough shale.

Lower Miocene was topped at 2073 feet, followed by a slight showing of gas in a sand and shale formation at 2500-40 feet.

Alexander et al have a block of 1600 acres surrounding the test, which is being drilled with a rig capable of making a relatively deep hole. Geophysical work done on the prospect was said to have indicated strong possibilities of the existence of a dome.

Coyle-Concord Believe In "Try, Try Again" Motto

Houston. — If Coyle-Concord Oil Company ever finds production in Colorado County, it must succeed where such operators as United North & South Development Company, Gulf Production Company, Humble Oil & Refining Company, Penn Oil Company, Rich Oil Corporation, The Texas Company, Shell Petroleum Corporation, Merrett et al, Timms et al, and itself have failed.

Coyle-Concord has announced location for another wildcat in the southwest part of the county, 10 miles southwest of Garwood. Nelson 1, as the test will be known, is erecting derrick and moving in materials on a site at approximately the center of the west line of Survey No. 43, I.&G.N. The company has taken leases on 20,000 acres in a block, of which it holds nearly a fourth in fee. Nelson 1, will be the fourth attempt of Coyle-Concord Oil Company to obtain production in Colorado County. Its previous wells, however, were not considered deep enough to give significant indications of the region's possibilities, except for production above 1502 feet.

The deepest well drilled in the county was United North & South Development Company's Lockwood 1, which went to 5585 feet before abandonment.

Cheek Dome Test Running Higher Than Fannett

Houston.—Jack Schultz et al, Fort Worth operators, drilling a wildcat on the Cheek dome prospect, Jefferson County, are very optimistic over the conviction that their O. M. Todd 1 is running about 200 feet higher than wells at Fannett dome.

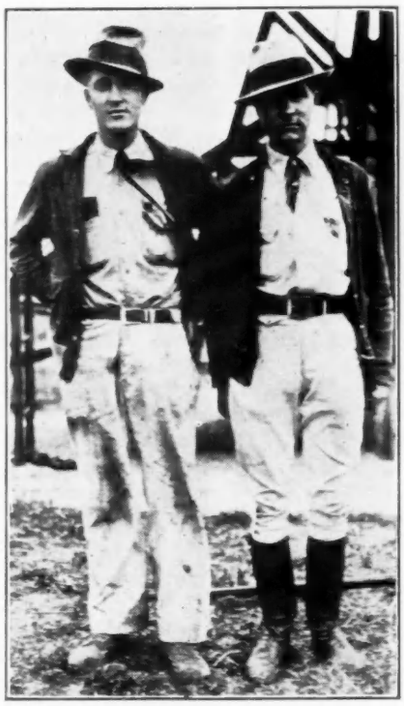
This well, located about two miles northwest of Humble Oil & Refining Company's Ross B. Nelson 1, which was dry and abandoned in shale at 6357 feet, has encountered gas with a little oil between 3375 feet and 3510 feet. This was cased off recently with 9⅝-inch casing, set at 3537 feet. The hole was rat-tailed ahead to 3541 feet, the depth at which drilling was scheduled to be resumed April 16.

First Miocene fossils were found in a core pulled at 2665 feet, with the first Marine Miocene fossils discovered at another taken from 3357 feet.

O. M. Todd 1 is located 200 varas south and 58 varas east of the northwest corner of the Wm. Carr Survey, near the center of 2800 acres held by the operators. It is about nine miles southwest of Spindletop.

Present plans call for resumption of drilling April 16.

Backman's Oswald 1, an old test drilled one mile north of the Todd well, was junked at 3422 feet. A sworn affidavit by two members of the crew drilling it contained reference to several shows of oil and gas. The uppermost show of kas was at 2130 feet, with last logged showing of oil at 3415 feet. The well was drilled in June, 1923.



Here are two young petroleum engineers who attack problems which arise in wells of Humble Oil & Refining Company. On the left is Stanley McCune, resident engineer at Raccoon Bend Field, Austin County, Texas; and on the right is Harold Ward, petroleum engineer in charge of the Gulf Coast division, with headquarters in Houston

John Walker to Test Area West of Clay Creek Dome

Houston.—Johnny Walker is moving in a rig to test production possibilities on the H. Wendt 100-acre farm in the J. F. Perry Survey of Washington County, which lies west of and adjacent to the James Perry Survey in which Clay Creek salt dome is located.

There are unconfirmed rumors of three additional wildcat wells to be drilled in the vicinity of Clay Creek, but no definite locations have been announced.

Heep's Montgomery County Well Due to Produce Again

Houston. — Heep Oil Corporation's R. L. Cartwright 1, wildcat which extended the producing horizon of the new Beach field in Montgomery County a mile and a quarter east of northeast last week when completed for 125 barrels of 52.8 gravity oil at 5078 feet, was scheduled to be put back on production April 15. Some spectator had approached the end of the flow line with a lighted cigarette, igniting the well and making it necessary to shut it in before an accurate gauge of production from traps could be taken.

East Texas Well Allowable Cut To 67 Barrels, Effective April 16
(Continued from page 14)

posting of all companies to 98 cents in this field affords a very attractive return on flowing wells, and a fairly brief payout period if it would be possible to maintain the latest well allowable and price posting over a long period. A well allowed 67 barrels daily will yield 2010 barrels per month, or a gross revenue of $1,969.80. Deducting the usual one-eighth royalty interest reduces this gross monthly revenue to $1723.57½. The average cost of drilling and completing a well in the field is now near the $17,000 level, or the equivalent of approximately ten months revenue, with royalty deducted, under the new price and allowance quotas.

R. D. Parker, chief supervisor of the Oil and Gas Division of the Texas Railroad Commission announced Friday that a hearing will be held at Austin on April 28, to fix the per well allowable in East Texas for the period May 1 to 15.

Humble Building Derrick In Guadalupe County

San Antonio, Texas.—Humble Oil & Refining Company is building derrick for Sue Denman 5-C, 500 feet north of 4-C and 525 feet from the east line of the lease in the William Arrington Survey, Guadalupe County. La Jita Corporation is resuming drilling after setting 52 feet of surface casing in Sue Deman 2, 450 feet from the east line of the tract and 150 feet from the south line of the tract in the same survey. These wells are in the Camp sector of the Darst Creek field.

Sal-Mar Oil Corporation has spudded A. F. Pfullman 1, L. Ballinger Survey, on the old Barnhill block. The well is the first of two or three to be drilled by this company, which recently moved into this area. The exact location of the first well is 1050 feet from the north and 150 feet from the west line of the 128-acre tract.

Another location in wildcat territory is J. E. Clark et al's Drummer 1, in the Francisco Carvajal Survey No. 47.

Operators Present Solid Front Against Gulf Coast Proration

HOUSTON, TEXAS, APRIL 15.

IF members of the Texas Railroad Commission are guided by testimony presented at the hearing on Gulf Coast proration held in Houston, April 15, and answers of testifying witnesses to cross examination questioning, apparently there will be no per well allowable fixed for the Texas Gulf Coast.

Proponents of proration in the Gulf Coast did not present a single witness after it was made evident that conservation practices have been used in the Gulf Coast for years as a natural result of high development costs.

C. V. Terrell, chairman of the commission, and R. D. Parker and Lon Smith, commissioners, listened most of the day to expert testimony of Fred Sealy, S. A. Judson, Benjamin C. Belt, and J. S. Abercrombie, all of which tended to prove the impracticability of any attempt to establish or set up any given set of rules for controlling the per well production of the Gulf Coast.

Elwood Fouts represented the Gulf Coast operators, devoting his time to questioning witnesses in such a manner as to bring to the commission an accurate picture of producing conditions in salt dome regions. R. E. Hardwicke, Fort Worth attorney representing the Texas Oil & Gas Conservation Association, did most of the cross examining.

Mr. Sealy, assistant manager of the South Texas division for The Texas Company, was the first witness put on the stand. In the process of describing piercement, non-piercement and low type salt domes, he referred continuously to the piercement type as represented by the Humble dome, illustrating by charts compiled from actual well logs that there is not inter-communication between sand lenses and that each lens has its own water level, or hydrostatic head.

"Isolation of the individual well's productive source is the rule in the Gulf Coast rather than the exception," he said. "Each well around a salt dome is an individual proposition and must be dealt with accordingly. The difference in the sand encountered in each well around a dome serves as a guide in handling its production, that is, with reference to determining proper screen and choke and rate of production."

Questioned on the effect of gas-oil ratio employed on one well on the pressure of another well, say 600 feet away, Mr. Sealy said use of gas in one would not necessarily have any effect on the other, due to the lenticular nature predominating in sands around salt domes. In elucidating on the lack of uniformity in the sands, he pointed out that wells in one field will sometimes vary in gravity of oil produced from 19 to 50 degrees Beaume, due to difference in source beds and percolation, or natural refinement.

In addition to pointing out the impracticability of imposing a set of regulations for handling a well at completion time and shortly thereafter, questioning by Attorneys Fouts and Hardwicke led Mr. Sealy to point out that such procedure would be economically sound even afterward. "Down here," he said, "a well has to be watched from day to day. Any changes in pressure, gas-oil ratio, or temperature call for immediate alteration of the production procedure employed on that particular well, or preventable physical waste will take place. Prevention of waste sometimes makes it necessary to make them produce more, sometimes less."

Mr. Sealy said that he knew of no instances in the Texas Gulf Coast where wells were being wastefully produced.

"The relatively high cost of drilling wells in the Gulf Coast has made careful handling of production and prevention of waste vital. Wells are never produced to capacity in the Gulf Coast,

Texas Gulf Coast Field Operations

Completions

BEACH FIELD, (Montgomery County)

Company, Well and Location—	Bbls.	Depth
Heep Oil Corp., R. L. Cartwright 1	150	5078

FALLS COUNTY

Henshaw & Harrison, Smith 1, Satin Area	*	1320

HUMBLE FIELD

Sun Oil Co., Bender 27	*	4697
J. H. Burt et al, C. O. & G. Texaco Fee 1 (wo)	*	2282

Company, Well and Location—	Bbls.	Depth

HILL COUNTY

C. Houseman, Griffith 1, Waddell Survey	*	4012

PIERCE JUNCTION

Rio Bravo Oil Co., Settegast 8-B	*	3368

POLK COUNTY

Humble Oil & Ref. Co., West Lbr. Co. 2-A	*	Core test

SARATOGA FIELD

Rio Bravo Oil Co., Cotton 132-A	7	520

(Gulf Coast Field Developments Cont'd)

(Texas Gulf Coast Wildcat Drilling Report)

AUSTIN COUNTY

Joe L. Mulvey, Scholeckte 1, near Kenny, prep to dr dpr... 1797
Gillis & Vogelpohl, Tranchman 1, J. C. Cummings Hacienda Sur, reported gas shwg at 736 ft, dr..... 787

BRAZORIA COUNTY

The Texas Co., Belcher 2, Manvel, has shwg oil at 5679 ft, cmtd back from 5736 ft, prep to set scr, td..... 5685
William Cave 2, Damon Mound, dr shale..... 4199
J. R. Ingram, Peske 2, 1107-ac tr, Peske Sur, lcn 500 ft fr w line and 300 ft fr s line.

BURLESON COUNTY

Sansom Oil & Gas Co., Dockworth & Gilly 1, se corner county, dk.

CHAMBERS COUNTY

Pure Oil Co., Mayes 15, Lost Lake, lcn 450 ft ne No. 11, E.H.R. Wallace Sur.
Humble O&R Co., Kirby 1, Barbers Hill, lcn 595 ft n of s line and 75 ft w of e line of 1s in Henry Griffith Sur.
Mills Bennett, Gulf Fee B-1, Barbers Hill, dr salt..... 3207
Means 3, Barbers Hill, dr salt..... 2430
Barber A-4, dk fndtn on lcn 300 ft w of A-3 and 40 ft n of s line strip, nw flank of field.
Texas Gulf Prod. Co., Kirby B-9, Barbers Hill, dr salt.... 3010
Mary Scott 1, Barbers Hill, milling on cas at 4088 ft, whipstock there, td..... 5629
Barber A-7, top salt 2920 ft, dr in salt..... 3896
The Texas Co., Wilburn 6, (wo), Barbers Hill cored oil sn 5108-16 and 5124-29 ft, dr in shale..... 5130 in mat.

FALLS COUNTY

O. B. Perot, J. C. Gorman 1, td in shale, running 6⅝-in cas 900
Hodges & Marr, G. London 1, P. Zarza Sur, dr in Eagleford 715
Dixie Oil Synd., Davis 2, Satin area, dr sndy shale..... 250
Groover & Rose, Dan Dean 1, lcn 150 ft fr s and 728 ft fr e lines of 50-ac tr in J. J. Acosta Sur.
C. H. Nelson, J. H. Davis 1, Satin area, shot with 80 qts at 1010-15, no results, dr in Yorktown lime..... 1091

FORT BEND COUNTY

Jas. T. O'Hara, T. A. Brown 1, Pilant Lake, dr blue shale 2849
Naylor & DeCosta, Naylor 1, H. Chrisman Sur, set 12¾-in cas and sd 1221
Humble & Gulf, Lockwood B-2, Rabb Ridge, dr shale..... 1405
H. P. Lockwood 3, Rabb Ridge, dr sndy shale..... 1820
Gulf Prod. Co., A. E. Myers 3, Rabb Ridge, dk Booth 2, Rabb Ridge, dr hard sn..... 1600
Moore 32, Orchard, dr shale..... 3520
Lusher 19, Blue Ridge, set 7-in at 4159 and tstd sw, pulling to dr dpr. 4294

GALVESTON COUNTY

Yount-Lee Oil Co., Cade 26, High Island, showed oil in sndy sh 5096 ft, dr..... 5227
Cade 27, High Island, dr 4683
Broussard & Orme 1, High Island, dr sn..... 5300

GRIMES COUNTY

Camp-Stanolind O&G Co., Mary Sullivan 1, A. Yeaman's Sur, dr shale 3245

HARRIS COUNTY

W. R. Alexander et al, Hermann Hale 1, Hanks Sur, oil shwg 3306-26 ft 3691
Moody-Pure Oil Co., Herman Est 1, Peirce Jct. dr li..... 3442

HARDIN COUNTY

W. R. Alexander et al, Kirby Lbr. Co. 1, mov in r on location in Mary K. Sherman Sur, 300 varas n and 100 varas w fr swc Sec. 209, H&TCRRCo.

JEFFERSON COUNTY

Pittman & Elam, Broussard 1, 2 mi w Sabine, dr hd sn.... 2612
Jack Schultz, O. M. Todd 1, Cheek dome, gas with little oil between 3375 and 3510, prep to dr drp, corrected td.. 3541
Barney Thames, Chaison 1, lcn in 5-ac tr, Blk 1, John Douthitt Sur, 50 ft fr w and 100 ft fr n lines.

LIBERTY COUNTY

Cranfill-Reynolds, Esperson 20, Esperson dome, sand shwg oil 3070
Devore Oil Co., W. T. Finley 1, 10 mi ne Liberty, dr shale and lime 2500
Republic Prod. Co., Dollbear 63-A, Hull, dr sn and shale.. 1570
Bain & Rheubotham, J. M. Neal 1, lcn in 50-ac tr in E. Tanner Sur, 850 ft fr e and 300 fr s lines.

MATAGORDA COUNTY

Claud B. Hamill, Tr., Nor. Irrigation Co. 1, ne flank Markham, set 6⅝-in cas 3490 ft and tested sn at 3493-3505, dry pulling csr to run DST 3505
The Texas Co., TTPL Co., Fee 1, Markham, ne flank, dk.

McLENNAN COUNTY

Elm Oil Co., Lanhart 1, Satin Area, dr shale..... 1278
Braz-Tex Oil Co., John L. Jones 1, I. Golinda Sur, dr Georgetown lime 1005
Ben Phillips Meir 1, Satin area, dr Eagleford shale..... 912
Bacon Oil Co., Miller 1, Satin area, dr Georgetown lime.... 1230

MILAM COUNTY

H. W. Elliott, Joe P. Marek 1, dr shale..... 3030
Birdwell et al, Williams 1, 2 mi sw Rockdale, set 6⅝-in at td 1350

MONTGOMERY COUNTY

Heep Oil Corp., Freeman 1, Beach field, lcn 450 ft fr s line and in center of J. R. Freeman 36-ac tr, Jno. Davis Sur, moving r from Heep Cartwright 1.
M. E. Roberts 1, Beach field, dk.
Strake Oil Corp., So. Tex. Dev. Co. 2, Beach fld, spd.
Wilson Oil Co., Lieberman 1, reported to have 8 ft oil sn, td 4930

ORANGE COUNTY

Ala-Tex. Oil Co., Reed 1, 2½ mi se Orange, dr shale and lime 4321
The Texas Co., Polk-Kuhn Glass Co. 1, Orange, making survey, td 6698
Kuhn 3, Orange, 9 min DST at 4075-91 ft, oil rose 2800 ft in hole, td 4091

ROBERTSON COUNTY

Keiser & Bolt, H. Scheske 1, dr broken lime and pyrites... 4996

SAN AUGUSTINE COUNTY

Jones & Tennant, W. P. Davis 1, A. G. Hale Hrs, dr chalky shale 3590

WASHINGTON COUNTY

John Walker, H. Wendt 1, Clay Creek dist, mov in r on lcn in Wendt 100-ac tr in J. F. Perry Sur lying w of the Perry Sur in which Clay Creek dome is located.

Louisiana Gulf Coast Field Developments

SULPHUR DOME

Company, Well and Location—	Bbls.	Depth
Union Sulphur Co., Fee 768	2500	3839

VINTON FIELD

Gulf Refining Co., Gray 1	*	3288

CALCASIEU PARISH

Hill Oil Co., W. S. Vincent 1, Sec. 25-10s-10w	*	3270

PORT BARRE FIELD

Company, Well and Location—	Bbls.	Depth
Port Barre Oil Co., Sibille 1	500	3388

LAKE BARRE FIELD

The Texas Co., Lake Barre 12	2740	3809

Wildcat Drilling Report

ACADIA PARISH

Haywood & Haywood, Jennings Fee 2, Evangeline, dr gbo 810

CALCASIEU PARISH

Wilfred Lahay, Jardell 1, 2 mi ne Vinton, washing over dr stem 3900
Union Sulphur Co., Fee 769, Sulphur dome, shwg oil 4440-49, ft, woc 4449
Martha Moss 2, Lockport, dr sn no show..... 7020
Shell Pet. Corp., F. Heyd 2, Iowa, brittle shale and sn, slight show 6957
Marrs-McLean, Gray 13, Vinton, oil sn, prep to set 8-inch cas to test 1604
Moore & Emerson, Hunter B-1, Edgerly field, dr gbo..... 2437

CAMERON PARISH

Brownie-Babbette Oil Co., R. A. Moore 1, Black Bayou, fsh for dr st 3900
Calcasieu Oil Co., Watkins 33, E. Hackberry, dr gbo..... 650
Watkins 23, (wo), dr sn and sh..... 2830
Dorian 8, E. Hackberry, dr rk..... 2065
Union Sulphur Co., Pure Oil 1, E. Hackberry, dr sn and sh 5550

IBERIA PARISH

Jefferson Lake Oil Co., Lake Peigneur 31, Jefferson Lake, set 10-inch 800

IBERVILLE PARISH

Standard Oil Co. of La., Myrtle Grove-Wilbert 2, Bayou Choctaw, dr rk 2980
Gay 2, Bayou Choctaw dome, dr sndy shale..... 5541
Schwing 7, Bayou Blue, dr gbo..... 5111

JEFFERSON DAVIS PARISH

Shell Pet. Corp., Fontenot 1, Iowa Dist., dr soft gr shale and sn 6055

LA FOURCHE PARISH

States Prod. Co., Swamp D., 72-15s-15e, dr cap rk..... 1361

ST. LANDRY PARISH

W. A. Aggers, S. D. Cochran 1, Port Barre, dr hd sndy lime 3465

TERREBONNE PARISH

The Texas Co., State Dog Lake 5, Dog Lake, fsh..... 2448
L. L. E. Lake Barre 2, Lake Barre, dr shale..... 2000
United Gas Pub. Serv. Corp., Minor Est. 2, 13 mi nw Houma field, stg 5715

even when being cleaned. Such practice would ruin a well."

Further testimony brought out that proration has been in effect in the Gulf Coast for years, but that it has been an individual matter, rather than a collective policy. Private proration, individually employed, has let a few operators in the Gulf Coast remain as "old-timers" still producing. Those unable to see the wisdom of the policy, have gone broke—was the effect of the testimony.

After the answer to nearly every question Mr. Hardwicke put to witness Sealy seemed to indicate the Gulf Coast operators were operating about as effectively and perfectly as possible, Mr. Hardwicke asked:

"How does it happen that all these Gulf Coast operators are so near perfect?"

Mr. Sealy answered, "They have learned from the hard school of experience that they must produce efficiently to stay in the game down here.

S. A. Judson, geologist of Texas-Gulf Producing Company, operators at Barbers Hill, took the stand after the noon recess. Mr. Judson produced drawings compiled from data of drilled wells showing sand segmentation and varying water levels, stating, "The closer we drilled wells, the more segmentation evidence we found. In fact, you don't know what you are going to hit until you have hit it."

Mr. Hardwicke: "If you don't know what you are going to hit on dome drilling in the Gulf Coast until you have hit it, what is the function of a geologist down here outside of smelling and looking at cores?"

Then Mr. Hardwicke wanted to know why the other fields in the state should be prorated and not the Gulf Coast. Mr. Judson's answer referred back to the individual proration and efficient operation which have been essential to successful operation in the Gulf Coast for years.

Benjamin Belt followed Messrs. Sealy and Judson on the stand, giving testimony of a similar nature.

NEW MEXICO . . . ROCKY MOUNTAIN

Staff Correspondent, Casper, Wyoming

New Mexico and Rocky Mountain States

Wildcat Drilling Report

NEW MEXICO

BERNALILLO COUNTY

	Feet
Norrins Realty, Pajarito Grant 1, 22-9n-1e, fsh cas.	1295

CHAVES COUNTY

Warman Oil Trust, Evans 1, 15-14s-25e, fsh bit.	1203

CURRY COUNTY

G. L. Trout, 24-2n-31, salt water at.	627

DE BACA COUNTY

Montgomery et al, Wood 1, ne 6-4n-20e, co to res.	3505
Landowners Oil Co., State 1, ne 16-1s-27e, dr.	4702

DONA ANA COUNTY

Middle States O&G Co., Boretzi 1, 14-26-5e, rigged.	....

GUADALUPE COUNTY

N. M. Prod. & Ref. Co., McMillan 1, 24-5n-16e, dr.	4330

LEA COUNTY

Baker Oil Co., Inc., sw nw 15-13s-33e, mvg in.	....

LUNA COUNTY

Angelus O. & M. Co., State 3, se 30-21-10, try to reset cas.	6171

RIO ARRIBA COUNTY

Governador Oil Co.'s 1, 15-29n-7w, dr.	2070

ROOSEVELT COUNTY

Peterson et al, Good 1, 32-5s-30e, rig up.	....

COLORADO

ADAMS COUNTY

Hills Dome Lease Dev. Co., se 27-3s-54w, carry 8¼ in, dr	4000

ARAPAHOE COUNTY

McDeb Drlg. Co., Fitzsimons 1, ne 7-4s-66w, fsh.	5961

ARCHULETA COUNTY

Oil City Pete Co., Fitzhugh 1, sw 34-33n-1e, sd for fuel, much gas	717

JEFFERSON COUNTY

Ruby Hill O&G Co., Braden 1, se 24-4s-69w, wait 4¾-in.	4280

LA PLATA COUNTY

McGarr Pete Co.'s Pinon Mesa 1, ne 34-33n-12, rig up.	....
J. W. Irwin & Co.'s Doescher 1, nw 29-33-13w, install rotary at	3175
Phipps et al, sw 9-33-13, td	520

LARIMER COUNTY

Mayer et al, Reed 1, nw 28-4n-60, dr and carry 6⅝-in.	3400
C. Leonard Smith's State 1, 36-12n-70, prep to res, td.	760
Poudre River Oil Co., se nw 34-8n-69w, wait 8¼-in.	1996
Consolidated Drlg. Co., Maxwell 1-A, ne 25-8n-70, to res.	286
Coulter et al, se 4-4n-70, spd.	200

PARK COUNTY

So. Park O. & G. Co., Milligan 1, se 13-8s-76w, cem cave.	2630

RIO BLANCO COUNTY

California Co.'s Raven 1, se 20-2n-102, dr.	4698

WELD COUNTY

Reiter-Foster Oil Corp., Johnson-Juhl 1, se se 14-6n-61, cem back from 6918 ft to Codell sandstone and sd.	6270

WYOMING

CONVERSE COUNTY

	Feet
John Ackard, se 24-33-72, resum.	1820

FREMONT COUNTY

Wiebolt et al, 35-33-99, wait for 5 3/16-in at.	2620
Ward O&G Co., 28-34-90, mvg in rotary to new location.	....

NATRONA COUNTY

Mutual Oil Synd., Midway 2, sw se 14-36-79, dr.	2200

WESTON COUNTY

Julius Peters et al, Weitzell 1, se nw 30-46-64, res.	3400

MONTANA

VALLEY COUNTY

Opheim O&G Co., ne 28-37n-38e, location.	

YELLOWSTONE COUNTY

Spokane-Laurel Oil Co., sw se 30-2s-24e, spdg.	

DRILLING TESTS

BROADWATER COUNTY

Capitol O&G Co., nw 7-8n-1e, dr bel.	2000

CARBON COUNTY

Corbett Roy. Co., sw se 1-16s-23e, reset 8¼-in at.	1120
Ohio Oil Co., Kutchinski 1, 15-7s-21e, dr.	5400

CASCADE COUNTY

Buscher & Cassady, Johnson 1, se 19-22-3e, resum, hfw.	1387
Charles Merz et al, Sheffels 1, nw 4-21-4e, try for wso, td.	905

FALLON COUNTY

H. W. McDonald's 1, sw 28-8n-60e, 8¼-in cem, co.	1682

FERGUS COUNTY

Melton Corp., 1, sw 24-21n-17e, dr and carry 8¾-in.	3120
Landheim-Romunstad 2, ne 3-17n-20e, set 6⅝-in at 2116 ft, sd	2600

GALLATIN COUNTY

Mont. Gas & Pete Corp., Adams 1, 35-1n-2e, dr.	1617
Gallatin Valley Oil Co., Haglund 1, sw 13-34-6w, to res.	2539

GLACIER COUNTY

Fulton-Blackfeet Oil Co., ne 28-36-12w, tearing down derrick, prep for rotary, td.	2947
Jefferies et al, se ne 17-31-12w, prep to dd.	2980

GOLDEN VALLEY COUNTY

Golden Valley Oil Co., 2-6n-22, dr.	3035

LIBERTY COUNTY

Northland O&G Corp., Yurman 1, sw 32-33-5e, stand cem	3815
California Co., Ross 1, ne 3-33-6e, dr.	3200
Peoples O&G Co., nw 17-36-6e, try to lower 10-in, td.	2000

MUSSELSHELL COUNTY

Minn.-Flatwillow Pete Co.'s 1, sw 7-11-31e, to res this month, td	2565

TOOLE COUNTY

Oregon Syndicate, se 20-36-2e, (oil show) wait string 5 3/16 in, td	2362

YELLOWSTONE COUNTY

Peter Antonioli, ne ne 21-2n-25e, prep to run 5 3/16 in, td.	2470

LOUISIANA FIELDS

Southeast Flank of Sabine Uplifts Attracts Wildcats Zwolle Locations Fall Behind Completions

Staff Correspondent, Shreveport, La.

Three Zwolle Completions Dry; Two New Starts

Shreveport.—Zwolle field operations continued quiet during the last week, three dry holes being the total completions and two new locations being announced.

Four miles southeast of West Zwolle (Blue Lake) production and equidistant south of the southernmost part of the Zwolle townsite offshoot production, Root Refining Co. abandoned Peterson 1, SW NE Section 34-7-13, as a dry hole at 2850 feet in chalk. This test and 800 acres surrounding it was taken over several weeks ago from George LeGrand, who reported an oil and gas show at 2243 feet. Six-inch casing was cemented in the well at 2495 feet. It bailed dry at that depth also.

The other dry holes were Hawkins and Antoon's Newton 1, Section 1-7-11, abandoned at 2609 feet when it refused to pump and Ben Merritt, Trustee's Byrd 1, in the same section, abandoned at 2579 feet.

Zwolle's new locations were Merritt's Byrd 3, Section 1-7-11, which is drilling at 1680 feet and Ruston Drilling Company's Cutrer 1, Section 13-7-11.

Five miles northwest of Zwolle production, J. J. Keen Wednesday, April 13, cemented six-inch casing at 3104 feet, with total depth of 3128 feet, three feet into the lower Cretaceous, in Belton 1, NW SE NE Section 31-9-13. The work was done by Halliburton Oil Well Cementing Company. Kean reports an oil and gas show from 3111-25 feet.

R. L. Gay, Trustee, in Long-Bell A-1, NW NW Section 10-8-13, where salt water broke through after seven-inch casing was cemented at 4741 feet, after a core in oolitic lime at 4772 feet in Glen Rose, showed an oil saturation, is coring ahead.

Loring Oil Company has delayed shooting hung drill stem in Bowman-Hicks 18, SW NW Section 15-7-12, at 4850 feet, in Glen Rose.

Caldwell Parish Test Has Gas Show in 12-Foot Sand

Shreveport.—Carter Bell and associates early during the past week drilled into 12 feet of sand, probably Nacatosh, showing gas, from 2474-88 feet, in Taylor 1, Section 17-14-4e, Caldwell Parish, Louisiana, a wildcat, and are arranging to set casing. This test which is in the vicinity of the Angelina-Caldwell Flexure, is roughly on a line from the shallow Urania oil field in LaSalle Parish to the Richland gas field.

Besides Zwolle's two new locations, North Louisiana had three other new locations last week. C. F. Davis will drill Peterson 1, SW NW Section 12-14-11, north Red River Parish, between the Bull Bayou oil field and the Elm Grove gas field.

The third location in as many weeks for the Marthaville district of Natchitoches Parish, a wildcat area, believed to be in the vicinity of the southeast flank of the Sabine uplift, was made when Roy Rains and associates erected derrick for Beard 1, SW SE Section 8-8-10.

North Louisiana Field Developments

SABINE PARISH (Zwolle)

Company, Well and Location—	Bbls.	Depth
Hawkins & Antoon, Newton 1, 1-7-11	*	2609
Ben Merritt, Tr., Byrd 1, 1-7-11	*	2579
Root Ref. Co., Peterson 1, 34-7-13	*	2850

Wildcat Drilling Report

(Wells shut down not included)

	Feet
CALDWELL PARISH	
Carter Bell et al, A. R. Taylor 1, 17-14-4e, sand showing gas encountered 2476-88 ft, arr set cas, td	2488
DE SOTO PARISH	
E. T. Oakes, Johnson 1, 30-13-15, sd	3347
De Soto Dev. Co., Nickie 1, 7-13-12, dk	....
Walters & Nicholson, Jim Guy 1, 3-11-13, cemtd 8-in cas 1582 ft, td in chalk	1675
Warren & Craig, C. Phillips 1, 33-13-14, sp cemtd 10-in cas	102
GRANT PARISH	
Security Pet. Corp., Swope 1, 16-9-1e, sp dr	50
NATCHITOCHES PARISH	
W. M. Coats, Ross Oliver 1, 10-9-10, rig	....
Dr. H. S. Gerson et al, Smith 1, 11-10-8w, ds stuck, td	1000
Dr. H. S. Gerson et al, Smith 3, 6-10-8w, lcn.	....
H. W. Perritt, Brown Lbr. Co. 2, 30-7-9, lcn	....
H. W. Perritt, Cook 1, 3-8-9, rig	....
Roy Rains et al, Beard 1, sw se 8-8-10, dk	....
OUACHITA PARISH	
S. C. Wilson & Fred Mitchell, W. L. Williams 1, 5-16-1e, 6-inch 2655 ft, core chalk	2750
RED RIVER PARISH	
C. F. Davis, Peterson 1, sw nw 12-14-11, lcn	....
SABINE PARISH	
H. W. Perritt, Brown Lbr. Co. 1, 6-7-10, dry wo	2763
J. J. Kean, Belton 1, 31-9-13, elev 232.7 ft, top lower Cretaceous 3125 ft, cemtd 6-inch cas 3104 ft, td	3128
R. L. Gay, Tr., Long-Bell A-1, nw nw 10-8-13, 6⅝ cas 4741 ft, sw broke through while bailing cas, arr core ahead in Glen Rose	4772
The Texas Co., Giaque B-2, 10-7-13, dk	....
Geo. LeGrand, McGough 1, 2-8-10, dk	....
Loring Oil Co., Bowman-Hicks 18, 15-7-12, arr shot stuck ds, td	4850
J. J. Hall, Williams 1, 3-7-10 dr	1870
Broderick & Calvert, Costullo 1, 2-7-14, sd	150
R. W. Boulding, Williams 1, 17-7-10, dk	....
Mays & Mead, DeLong 1, 5-7-10, dk	....
J. F. Palmer, Davis 1, 17-7-10, dk	....
Williams & Spiers, Williams 1, se sw 31-8-10, dk	....
State Prod. Co., Davis 1, 17-7-10, dk	....
WEBSTER PARISH	
J. K. Wadley et al, Matthews 1, 11-23-9, dr shale	1550

ARKANSAS FIELDS

Work Resumed on Deep Test In Smackover Area Only One Well Completed—Makes 300 Barrels

Lone Arkansas Completion Makes 300-Barrel Flow

El Dorado, Ark.—Wilson & Chapman completed K. D. Parker 1, Section 3-18-13, Union County, Arkansas, in the northern part of the Urbana district, during the last week, flowing by heads an estimated 300 barrels of oil daily, into pits. Total depth is 3581 feet; 6⅝-inch casing was cemented at 3560 feet, after a drill stem test showed seven thribbles of oil in 10 minutes.

Joe Modisette abandoned Union Sawmill 1, Section 13-18-13, two miles southeast of Urbana production as a salt water hole at 2280 feet. Frank Melat, Incorporated, abandoned Fletcher 1, Section 13-1s-8w, a wildcat in Lonoke County, Arkansas, as a dry hole at 2242 in Paleozoic rock. This well abandoned for some time at around 2000 feet was recently taken over by Melat and deepened.

Two new locations were announced for Arkansas for the week ending April 13. D. S. Brooks and associates made location for Crossett Lumber Company 1, SW SE Section 31-15-6, Ashley County, a wildcat in southeast Arkansas, and are building a road to the location, upon completion of which they will start moving in materials.

Shreveport.—Activity has been renewed at Lion Oil Refining Company and asso-

Arkansas Field Developments

Completions

LONOKE COUNTY

Company, Well and Location—	Bbls.	Depth
Frank Melat, Inc., Fletcher 1, 13-1s-8w	*	2242

UNION COUNTY

Company, Well and Location—	Bbls.	Depth
Wilson & Chapman, K. D. Parker 1, 3-18-13	300	3581
Joe Modisette, Union Sawmill 1, 13-18-13	*	2280

Wildcat Drilling Report

(Wells shut down not included)

	Feet
ASHLEY COUNTY	
D. S. Brooks et al, Crossett Lbr. Co. 1, sw se 31-15-6, lcn	....
DALLAS COUNTY	
Jno. James, Tr., Fordyce Lbr. Co. 1, 11-9s-15w, fsh	2527
HOT SPRINGS COUNTY	
Starr Oil Co., Cunningham 1, 11-5-15, sd	1302
MILLER COUNTY	
C. H. Lichfield, Harvey 1, nw nw 2-15-26, coring bro lime	2750
Fitzwater et al, E. L. Beck 1, sw se 33-15-26, coring limey shale	2600
UNION COUNTY	
Southern Prod. Co., Wingfield 1, 16-19-15, dr ash and red beds	3193
Lion O. R. Co. et al's Hayes A-9, ne ne 4-16-15, elev 96 ft backed off 3885 ft, dr stem to date, td in salt	7255
Drillers O&D Co., Haney 1, nw se 1-17-16, wo short string 4½ cas, td	2145
Hall et al, Barnes 1, ne ne 21-19-15, dk	....
Pigeon Hill Oil Co., Union Sawmill Co. 1, nw sw 19-17-12, dk and move in rig	....

Eastern States Field Developments

Completions

PENNSYLVANIA

GREENE COUNTY

Company, Well and Location—	Bbls.	Depth
Scheidler-Johnson Co., Sterling 1	¶½	2400

WASHINGTON COUNTY

Carnegie Natural Gas Co., Plants 1	¶¼	....

WEST VIRGINIA

JACKSON COUNTY

Jerk Water Oil Co., Cole 1	*	2428

WOOD COUNTY

W. H. Bickel, Fee 1	¶½	4200

WETZEL COUNTY

Pittsburg & West Virginia Gas Co., Ashcraft 11	¶¼	....

SOUTHEASTERN OHIO

WASHINGTON COUNTY

First Nat. Bank New Matamoras, Piatt 1	3	610
Murphy Farm Oil & Gas Co., Murphy 2	*	1179

CENTRAL OHIO

LORAIN COUNTY

Ohio Fuel Gas Co., Stepka 2	¶¼	....

MEDINA COUNTY

Edson & Co., Packard 34	5	....

MUSKINGUM COUNTY

Ohio Fuel Gas Co., Staker 2	¶¼	3933

PERRY COUNTY

Mid-East Oil Co., Devers 1	¶¾	3160

RICHLAND COUNTY

Samuel Weirick & Co., Kerr 1	¶¼	734

STARK COUNTY

F. A. Brendall & Co., Hutzmacher 1	¶4¾	4420
F. A. Brendall & Co., Smith 1	¶½	4418
Ohio Fuel Gas Co., Hartmount 1	¶¼	....

ATHENS COUNTY

Ohio Fuel Gas Co., Shurick 2	*	1307

NORTHWESTERN OHIO

LUCAS COUNTY

Dillon & McFredrick 1	5	1500

SHELBY COUNTY

Eilerman Oil Co., Borcher 2	1	....
Rucker Oil Co., Borhorst 1	*	....

SENECA COUNTY

Company, Well and Location—	Bbls.	Depth
Sandusky Gas Co., Hoover 1	¶¼	....
Tiffin Industrial Gas Co., Feasel 2	¶¼	....

WYANDOT COUNTY

R. W. Kirk & Co., Smith 1	¶¼	....

INDIANA

GIBSON COUNTY

R. J. Rendall & Co., Gasten 1	*	....
Gib-Van Oil Co., Haskins 4	190	1286

ILLINOIS

CRAWFORD COUNTY

W. C. McBride, Inc., Wesner 2	15	....
R. Lingenfelder, Shaw 1	*	1300

MICHIGAN

CLARE COUNTY

Mammoth Petroleum Co., Bothwell 1	*	4090

LENAWEE COUNTY

Graber & Co., Lawrence 1	*	1900

MONROE COUNTY

Monroe Oil & Gas Co., Nachtengale 1	*	650

WASHTENAW COUNTY

Monroe Oil & Gas Co., Atkinson 1	*	1250

KENTUCKY

DAVIESS COUNTY

Mecca Oil Co., Alsip 4	30	....
Johnson 7	*	781

EDMONSON COUNTY

I. M. Murphy, Rock Hill 1	20	....
Rock Hill 2	15	....
Rock Hill 3	20	....

HART COUNTY

DeWeese & Co., Finley 1	¶2	....
Unknown parties, Baumgardner 1	50	....
Unknown parties, Widow Johnson 1	¶1½	....

MUHLENBERG COUNTY

The Ohio Oil Co., Shelton No. 2, tr. 1	*	1501
Ellis & Young, Cornnette 1	15	1400

ciates' Guy P. Hayes A-9, NE NE Section 4-16-15, Union County, Arkansas, Smackover district, which has been shut down for several months at 7255 feet in salt, with hung drill stem. A backing off tool has been secured and up to Wednesday, April 13, operators had backed off 3885 feet of drill stem.

Udden Research Fund Asks Subscriptions

Austin, Texas.—The Bureau of Economic Geology of the University of Texas is soliciting subscriptions to its plan to establish a Johan August Udden publication and research fund, which it says has been generally endorsed, and for which some contributions have already been made.

The plan has two parts, publication and research, the first to be put into effect as soon as the contributions made are sufficient to publish a volume, while the latter will be deferred until larger funds have been secured. The fund will honor the late Dr. Udden, who was director of the above bureau, and it will provide for publication of geological reports and for promoting and aiding geological research in Texas.

The plan is to solicit pledges or contributions to the fund of whatever amount the friends of Dr. Udden feel able to give to be paid when convenient, a part to be paid within the year if possible and to be used in publishing a memorial volume. The returns from sale of the publication will be turned back into this fund and the fund will be held open for additional contributions. In return, the subscriber will receive free a copy of the memorial volume and his name will be placed on the permanent roll of patrons of the memorial fund.

SOUTHEASTERN STATES

Alabama Wildcat Finding Geology High
Mississippi Gas Field Has 86 Wells

Jackson Now Has 86 Completed Gas Wells

Jackson, Mississippi.—The Jackson gas field's eighty-sixth gas producer was completed April 11, when Belhaven College's Fee 1, drilled under contract by United Gas Public Service Company, was completed in Midway chalk at 2394 feet, gauging 45,170,500 feet of gas; elevation is 293 feet. The well is 360 feet east and 210 feet south NW SE NW Section 35-6-1e, Hinds County, in the Jackson city limits.

This test which opens an undeveloped area in the northeast section of the city, checked 24 feet higher than the nearest gasser on the west, in Section 34-6-1e. Midway black shale was logged at 2303 feet and chalk at 2390 feet where 6⅝-inch casing was cemented.

Alabama Test Finds Paleozoic Marker High

Vernon, Alabama.—P. J. McAlpine's Gardner 1, NW NW Section 22-15s-16w, Lamar County, Alabama, topped Paleozoic rock at 412 feet during the last week. With elevation of 503 feet, this test checked 463.4 feet higher on the Paleozoic rock as a marker than Arkansas Natural Gas Corporation's Rye 1 in Monroe County, Mississippi, five miles west. Rye 1 showed much gas at the 2700-2800 foot level. It topped the Paleozoic rock at 605 feet with surface elevation of 232.6 feet. McAlpine first set 10-inch casing at top of the Paleozoic at 412 feet but later started arrangements to re-set it at 528 feet, total depth of the hole.

Long-Bell Alabama Mineral Rights Sold

Jackson, Alabama.—Mineral rights on approximately 9000 acres of land in western Alabama have been assigned to Long Bell Minerals Corporation by Long Bell Lumber Company, according to papers filed at Butler, county seat of Choctaw County. The acreage affected is in Township 9n, Range 4w, 9n-5w,* 10n-4w, 10n-5w, 11n-5w, and 12n-5w. Similar transfers were recently made between the same concerns involving east central Mississippi mineral rights on large tracts held by the lumber company. It is rumored that the purpose of the lumber company transferring these mineral rights is to do some drilling on its own account. This report, however, has not been officially verified.

F. X. Gowans has blocked approximately 25,000 acres embracing Township 1n-14e, 1n-15e, and 10n-9w, in Clarke County, Mississippi, extending over the Alabama line, and has made location for Long-Bell Lumber Company 1, SW NE Section 13-1n-14e, Clarke County, Mississippi. Arrangements are being made to move a rig from East Texas to the location. Derrick materials are on the ground. To the northwest of Gowans' block Pure Oil Company has a block, Gulf Refining Company has a block northeast, and Humble Oil & Refining Company has one to the southwest.

Southeastern States Field Developments

Completions

MISSISSIPPI

HINDS COUNTY (ackson)

Company, Well and Location—	Bbls.	Depth
Belhaven College, Fee 1, 35-6-1e	¶45	2394

Wildcat Drilling Report

(Wells shut down not included)

MISSISSIPPI

CLARKE COUNTY	Feet
F. X. Gowans, Long-Bell 1, sw ne 13-1n-14e, lcn	....
HINDS COUNTY (Edwards Dist.)	
Miss.-Minn. Oil Co., Edwards Land Co. 1, sw ne 23-6n-4w, 12-inch 110 ft, dr sand	2245
LAMAR COUNTY (Purvis Dist.)	
Stauffeur & Kouri, Trs.' Bond 1, se ne 18-2n-14w, dr sand	550
LOWNDES COUNTY	
Lowndes County O&G Co., Carr Est. 1, ne nw 34-17-16e, rig.	
NEWTON COUNTY (Newton Dist.)	
Dalton Dev. Co., Majure 1, se se 25-6n-11e, 10-inch 295 ft, rebldg dk, td	1420
NOXUBEE COUNTY (Macon Dist.)	
Thompson O&G Co., Donahue 1, se ne 25-16n-17e, elev 280 ft, sd	1735
Ames 1, nw nw 24-16-8e dk pat.	
RANKIN COUNTY	Feet
Majestic O&G Co., Elton Lbr. Co. 1, 10-4n-3e, dk	....
SCOTT COUNTY	
Culley et al, Owen 1, se ne 2-8n-9e, sp	....
SHARKEY COUNTY (Nitta Youma Dist.)	
United Gas Pub. Serv. Co., Lenhart 1, 14-14n-6w, dr shale	2872

ALABAMA

CLARKE COUNTY	
Tidal Oil Co. et al, Everett & Boykin 1, ne se 33-6n-2e, rig	....
LAMAR COUNTY	
P. J. McAlpine, Gardner 1, nw nw 22-15s-16w, elev 503 ft, top Paleozoic rock 412 ft, arr set 10-inch cas, td	512

FLORIDA

DADE COUNTY	
East Coast Oil & Nat. Gas Co., Warwick 1, 12-55s-40e, co.	5305
Miami, Fla., Oil Co., Chevalier Corp. 1, nw nw 19-45s-35e, trying to re-land 6-inch cas, td	4600
PINELLAS COUNTY	
Pioneer Oil & Mining Co., Yerxa et al 1, 2-29s-16e, dr cellonite	1205
WALTON COUNTY	
Calumet Co., Walton L. & T. Co. 1, se ne 7-1n-17w, dk	....
Oil City Corp., Walton L. & T. Co. 1, ne nw 12-1n-19w, core black shale and sand (Eutaw)	4550

LETTERS to the Editor

Officially, a major portion of those publicised as the brains of the oil industry seems to favor proration, curtailment and related theories of production control. All these theories presumably and "officially" are directed at establishment of healthy conditions for the producer.

BUT—official opinions often are matters of policy not necessarily reflecting personal opinion, though they generally have been moulded from one strong man's notion. From this natural trend of human affairs shines a ray of hope for the oil industry.

It is the history of nation, institution, or industry to play "follow-the-leader" until some general or corporation head thinks the game has become silly, and, like a displeased child, withdraws from accepted procedure to play the game as he likes.

Present personal opinion has realized, or soon will, that past personal opinion has made a fizzle of moulding an existing official opinion that endorses control methods smacking a great deal of the attempted deprivations of personal liberty and restraint of trade which in political affairs have given rise to revolution.

Present personal opinion has had time to think, to realize that attempted control of cotton, rubber and lumber industries, by methods not entirely dissimilar to those obtaining in the oil industry today, resulted in complete failure, leaving a sick industry in each instance in a more serious predicament after administration of the unnatural treatment.

Have events of the past two-year regime of official opinion indicated such an excess of grey matter in the brains of the oil industry over the brains of the cotton, rubber and lumber industries to justify conviction that oil industry leaders will succeed where the others have failed? Outside the diamond industry, which in itself is pitifully crippled by control, is it easy to find an instance where a controlled major industry has progressed?

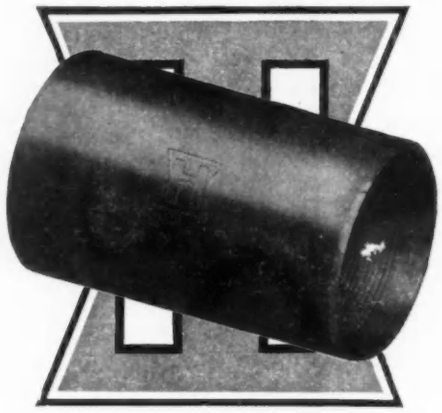
Granted that opening of so-called market threat fields would result in lower prices and certain ruination for companies not in position to weather the storm. What of it? It is the purgative needed by the whole industry. And there is this to remember: there is always room in any industry for the man of vision, foresight, who has the courage of his convictions; and that it is manifestly illogical to assume that either group, majors or independents, has a corner on this type of man.

Whether it is true or not true that the major company is responsible for existing state aid in running the producing end of the oil business, somebody in the industry who had forgotten about government administration of the railroads asked for state and federal help in running the oil business. His woeful wail for help was taken up by those willing to play "follow-the-leader." Some have tired of the game. Some have begun to rue the day they plead for "unnatural" control of a natural resource.

Pretty soon one of the followers will have courage to brook the displeasure of the leaders and indulge his own notions of play. The lid will be off! The purgative rammed down the throat of past official opinion by newly moulded personal opinion! And the old game of "follow-the-leader" will be in full swing again. Fresh strides of those able to set the pace will carry them to the fore with the slogan, "Produce your oil when and as you see fit, just so you stay in your own lease!"

INDEPENDENT PRODUCER.

Living Up to a Good Name!



HARRISBURG forged seamless steel couplings have built an enviable reputation for dependability . . . made a good name for themselves, and they live up to it! They are always reliable, uniformly accurate, with qualities of endurance that are absolutely unsurpassed.

Forged from select steel out of our own open hearth furnaces and rolling mills . . . every process Harrisburg controlled, for efficiency and economy. Get in touch with us for superior couplings.

HARRISBURG PIPE & PIPE BENDING CO., HARRISBURG, PA.

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Rolph Mills & Co., 525 Market St., San Francisco

New Equipment for the Field

MACHINERY - TOOLS CATALOGS - BOOKS

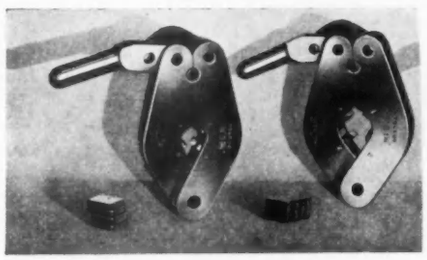
▼ ▼ ▼

1. Quick Opening Die Head

THE TOLEDO PIPE THREADING MACHINE COMPANY

The Toledo Pipe Threading Machine Company, Toledo, Ohio, announces the new "Toledo" quick-opening die head, a design which offers considerable advancement in pipe threading practice. The new heads are polished steel, made for either the Toledo No. 999 or No. 1000M, one-half to two-inch power pipe machines.

The manufacturer states that the time-saving element in the new die head is threading two-inch pipe in 16 seconds, as compared with former requirements of 30 seconds with the No. 1000M. At the completion of the thread the dies open up, with a pull of the lever, and the dies are instantly pulled off the completed thread. The smaller sizes are described as being correspondingly speeded up. The die heads are changed from one size to another by slipping them on or off the die head supporting posts. Dies from one to two-inch are made from high speed steel and are made of the rake type, suitable particularly for threading copper, high copper, brass and also cast iron as well as threading bolts and electric conduit.



Toledo Die Head

One quick-opening die head takes either the one-eighth, one-quarter, three-eighths or three-quarter-inch dies, another size takes the one or 1¼-inch dies, and a third size takes the 1½ or two-inch dies. If it is desired to thread one-eighth-inch pipe in an old No. 999 or No. 1000M, a slight change is said to be necessary in the chuck jaws.

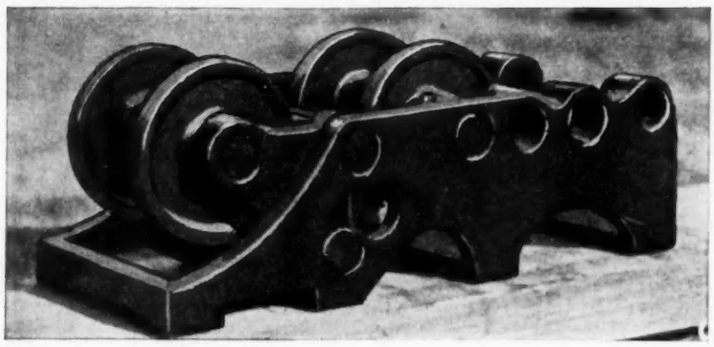
New quick-opening die heads are now available for substitution for users of the old Toledo No. 999 using solid die heads in cases where the cutter head is returned to the factory to change the die head supporting posts. No change is required in the No. 1000M pipe machine, according to the manufacturer.

2. Self-ejecting Pipe Welding Dolly

ALLSTEEL PRODUCTS MANUFACTURING COMPANY

Allsteel Products Manufacturing Company, 801-825 South Wichita Street, Wichita, Kansas, announces placing on the market the Cardwell-Allsteel pipe ejecting dolly, developed with the cooperation of pipe line contractors, superintendents and welding and line-up foremen.

It is instantly adjustable for any size pipe, and only one set is needed to handle all jobs. The dollies are sufficiently wide to rest solidly on any surface. The wheels are close together to prevent the dolly "cocking" during a line-up, and each wheel turns independently. The dolly is designed to conveniently handle long strings of any size pipe for tack weld and roll weld. One man, with pinch bar and hammer, removes pipe after roll welds are completed.



Above — All-Steel Pipe Dolly in operating position; at right, in ejecting position

This dolly is constructed of high-grade material and castings. It handles pipe from four-inch to 30-inch, O.D., by simply removing one cotter and pin, and placing in proper hole for the selected size of pipe. To eject the pipe from the dolly, it is necessary only to place a swaged-end bar under the trip-pin and strike with a hammer.

The frame is one-piece cast steel. The dolly has four independent cast steel wheels, with 1 13/16-inch long hubs to give free turning. The shafts are one-inch cold rolled steel. Dimensions are 5⅜ inches high by six inches wide and 14 inches long. Net weight is 27 pounds.

3. Oil Field Crawler Wagon

HOBBS MANUFACTURING COMPANY

Hobbs Manufacturing Company, 609 North Main Street, Ft. Worth, Texas, announces the new Hobbs oil field crawler wagon, designed for heavy duty hauling behind 60 horsepower and larger tractors.

This wagon can be supplied with forward wheels or with

— — — — — — ***MAIL COUPON*** — — — — — —

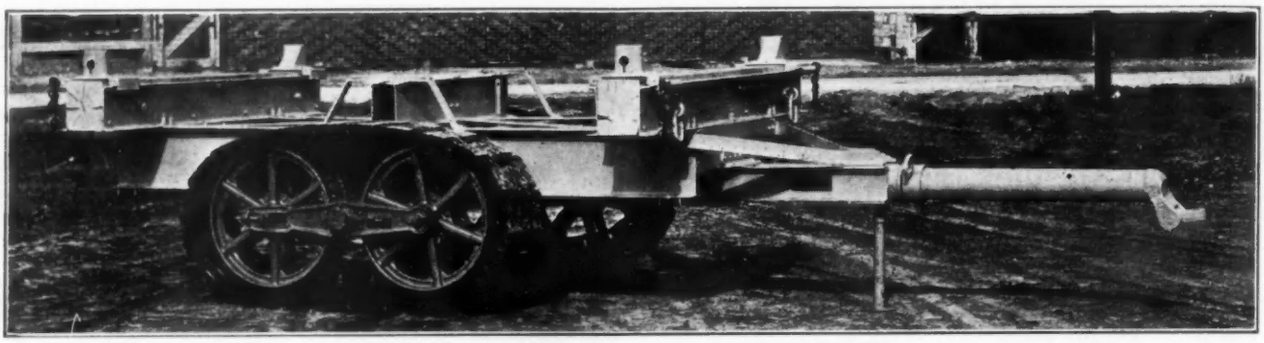
THE OIL WEEKLY,
Houston, Texas, U. S. A.

Please see that I am supplied, without obligation, additional information on New Equipment Items Nos.———— described in the April 18, 1932, issue of THE OIL WEEKLY.

Name .....

Company .....

Address .....



Hobbs Crawler Wagon

straight tongue for direct connection to the tractor. It is of all steel hot riveted and welded construction and equipped with steel reinforced oak bolsters, which are to prevent damage to the rivets on boilers. In turn, the manufacturers state that boiler rivets do less damage to the oak than to all steel bolstering. The front bolster is demountable. A bolster mounting is supplied at the middle of the wagon so that the front bolster can be placed upon it for hauling long lengths of pipe.

The wagon is equipped with Trackson crawler wheels having Timken bearing wheels and fully bushed tracks so that when bushings are worn they may be readily replaced. The Trackson crawler wheels have an arched tread so that the bottom contour of the tracks is the equivalent of the contour of a wheel 32 inches in diameter.

The wagon has been designed primarily for oil field service, and special features for easy loading and handling have been incorporated throughout.

4. Handy Fire Fighter

FENWICK-REDDAWAY MANUFACTURING COMPANY

Fenwick-Reddaway Manufacturing Company, Newark, New Jersey, has placed on the market a novel apparatus for fighting fires in their incipiency. It is a water bag of a fabric material, holding five gallons of water or other fluid, to be swung on a man's back, with a hand pump on a fluid leader line from the bag. The apparatus is always ready for use, and throws a stream 60 to 70 feet distance. The handy fire fighter is known as the "Ranger Special" water bag.

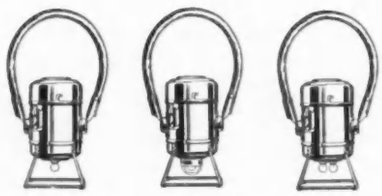
Handy Fire Fighter

5. Ray-O-Vac Electric Lanterns

FRENCH BATTERY COMPANY

French Battery Company, Madison, Wisconsin, announces that Ray-O-Vac electric safety lanterns are now available in three styles. Added to the original single-bulb lantern are the enclosed and two-bulb models.

The enclosed bulb type is produced particularly for use around gas, oil or other inflammables, and where a vapor-proof feature is desirable. The enclosure is of heavy glass, and is fitted in the socket with an airtight gasket.



Ray-O-Vac Electric Lanterns

The twin-bulb model, added to the single-bulb model, is for general use for handy lighting around leases, field camps, warehouses, etc.

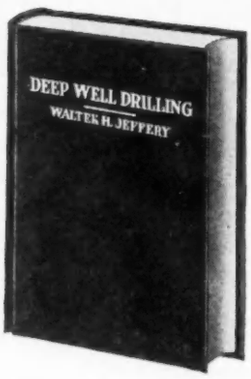
All three models have solid brass, heavily nickled body and legs. The swing type, self-locking handle is of bent wood. All connections are non-short-circuiting, and the switch gives either steady or intermittent light. Space is provided for carrying an emergency 3.8 volt lamp to extend efficiency, should the battery become accidentally weakened while on the job. A place also is provided for a regular five-volt lamp for replacement.

THIRD EDITION

of the Well Known Book

DEEP WELL DRILLING

by WALTER H. JEFFERY



Re-written and revised to date, and enlarged by the addition of the following New Chapters:

GEOPHYSICAL PROSPECTING AND AIR MAPPING.

STRAIGHT HOLE DRILLING AND THE TREATMENT OF CROOKED HOLES.

WATER SUPPLY.

THE GAS-AIR LIFT METHOD OF PRODUCING OIL.

A. P. I. CODES.

Preparatory to writing the new book, the author spent weeks in a first hand study of modern methods of drilling by the rotary system, and of completing wells, controlling high pressures and operating wells in the deep fields of California and Oklahoma.

The third edition contains 816 pages, 150 pages more than the second edition, and 452 illustrations, but the price is the same, $6.00.

Send Check to

GULF PUBLISHING COMPANY

3301 BUFFALO DRIVE HOUSTON, TEXAS

Catalogs ◆ Bulletins

Winch

H. A. Hutchins, 6620 McKinley Avenue, Los Angeles, has recently issued literature carrying complete details on the new Hutchins portable reversible self-locking winch for oil field service, which has dual controls.

Steel Derrick

H. A. Kasishke, Inc., 1805 Exchange Bank Building, Tulsa, has issued a four-page two-color folder describing and illustrating the new 122-foot U. S. steel combination rotary and cable derrick. Detailed information, including sizes of all parts and a price list on pieces, is carried. The manufacturer will furnish interested persons with a copy of this bulletin upon request.

Steel Buildings

International-Stacey Corporation, Columbus, Ohio, announces publication of a new 48-page catalog, devoted to describing and showing Ideco steel buildings. This catalog is so illustrated as to present each of the outstanding features of Ideco buildings, and the advantages of these features. A copy of this catalog will be forwarded interested persons upon request.

Wire Rope

Williamsport Wire Rope Company's sales office at 122 South Michigan Avenue, Chicago, recently issued an elaborate brochure telling of new improvements this company has made in the manufacture of wire rope. The new process of preseating and prestretching ropes of specific length is told with the aid of pictures showing views of the manufacturing equipment on the job. This company has recently published a book titled "How to Make Your Ropes Last Longer," a book which carries valuable information to the user of wire rope.

Welding

The Bastian-Blessing Company, 240-258 East Ontadio Street, Chicago, has recently sponsored publication of a pocket booklet, titled "Proof Plenty," devoted to a discussion of great interest to the welding trade. Interesting case histories of how well known organizations proceeded to overcome specific problems are condensed and illustrated so as to be of value to the welding shop designer, foreman or welder.

Cast Iron Pipe Fittings

The Central Foundry Company, Graybar Building, New York City, announces publication of a six-page color folder featuring the Universal Dual-Lok joint, cast iron pipe and fittings, designed for double safety against leakage. Complete information from the standpoint of design and construction is carried, and actual working photographs are shown throughout.

Engine Indicators

Bacharach Industrial Instrument Company, 7000 Bennett Street, Homewood Station, Pittsburgh, announces a new piece of literature covering recent developments in its line of Maihak engine indicators. This is Bulletin No. 3266, a copy of which is available for the asking.

Pumps

Gaso Pump & Burner Manufacturing Company, Tulsa, has issued Bulletin No. 7, devoted to describing and illustrating the Gaso enclosed self-lubricating power pump, interchangeable liner type for general service. This company has also issued a bulletin, No. 8, covering the Gaso all bearing enclosed type pump, and Bulletin No. 9, covering the Gaso portable pumping plant (enclosed type interchangeable liner pump). The latter is for emergency, temporary and semi-permanent oil field service. Bulletin No. 7 and No. 9 are 12-page bulletins and Bulletin No. 8 contains eight pages. A copy of any one or all of these bulletins may be had for the asking.

Pitman

Axelson Manufacturing Company, 6160 Boyle Avenue, Los Angeles, has prepared a circular describing the improved Universal pitman, showing in chart form how pumping shock is reduced.

Abrasive

Stoody Company, Whittier, California, is mailing out a leaflet describing tube borium and borod, abrasive resisting material manufactured in welding rod form. Photographs are carried in this description showing borod and the tube borium in its various screen sizes.

Swabs and Parts

Kibele Manufacturing Company, San Antonio, is issuing new literature carying announcement of marked price reductions for Kibele swabs and parts, effective April 1, coincident with an increase in the volume of production in its shops. A copy of the new price sheets is available upon request to the San Antonio headquarters.

Testing Machines

Baldwin-Southwark Corporation, Philadelphia, announces publication of a 36-page series of bulletins dealing with the line of Southwark-Emery testing machines. This series, which is available upon request and which is punched for convenient loose-leaf filing, constitutes virtually a short textbook about hydraulic testing machines. History of this type of work is interestingly touched upon. Illustrations used throughout are reproductions from actual installation photographs. Particular attention is called by the company to Figure 2722-AE on page 22, which shows the first test of its kind. Baldwin-Southwark Corporation requests that anyone asking for a copy of the bulletin give name, company represented with position held in that company, and address.

— — — — — — ***MAIL COUPON*** — — — — — —

Company . .....

Address .....

Please send me, without obligation, free booklet described in THE OIL WEEKLY, April 18, 1932.

Name .....

Address .....

NEWS *from the* *Industry's* EQUIPMENT MAKERS

Keeping in touch with developments with Manufacturers and Supply Dealers

Rabb Will Supervise Bridgeport Sales

Bridgeport Machine Company, Wichita, Kansas, through A. A. Buschow, president, announces the appointment of L. A. Rabb, as assistant to the manager. He has been with Bridgeport Machine Company for a number of

L. A. Babb

years, having come up through the purchasing and sales departments. In his new executive position he will have supervision over the sales, purchasing and operating departments of the company. The manufacturing plant is still being maintained as a separate division as is the financial and executive.

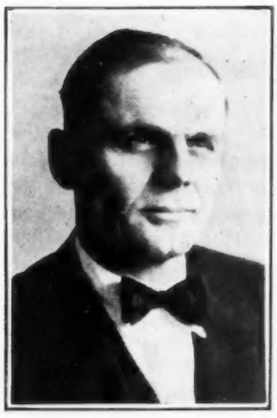
Lane-Wells Company New in Los Angeles

W. G. Lane and W. T. Wells recently perfected the organization of The Lane-Wells Company, in Los Angeles with offices at 4439 Santa Fe Avenue, to manufacture and distribute engineering and oil field specialties. They are taking over the line formerly sold by the Pacific Oil Tool Company, of same address, and in addition will distribute in California Radiac grinding wheels, Oceco general line, Elkonite and Elkaloy contracts and solid and lined alloy pipe. Other items are to be added. Mr. Lane had been connected with General Electric Company for 20 years, for the past 12 years, selling the petroleum industry. Mr. Wells, the past three years, was president of Pacific Oil Tool Company.

Guiberson Forms Diesel Engine Company

Guiberson Diesel Engine Company has been formed with headquarters at Dallas, Texas, to manufacture Diesel motors for aircraft. The new company, headed by S. A. Guiberson, Jr., as president, occupies a 37-acre site at Forest Avenue and Katy Tracks, Dallas, home of the Guiberson Corporation, parent company. The new engine, known as aviation's first "free-wheeling" engine, is described as operating without spark plugs, ignition coils or magnetos.

Organization of the new company follows three years of experimental work to perfect the new Guiberson Aero Diesel.



Guy H. Billings

Guy H. Billings Promoted

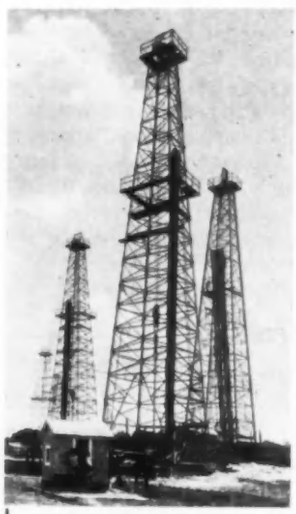
The Four Wheel Drive Auto Company, Clintonville, Wisconsin, announces the appointment of Guy H. Billings as assistant general manager. He has been with the company for 19 years, the past 17 of which he was purchasing agent, a position which he will retain in his new work.

Neilan Names Gas Representative

Neilan Company, Ltd., of Los Angeles, announces the appointment of M. N. Aitken as sales engineer in charge of sale of Neilan equipment to the natural and manufactured gas industries exclusively. The recently perfected line of Neilan rate-of-flow controllers and flow meters rounds out the established line of Neilan regulators for the gas industry.

Lincoln Appoints Mexican Distributor

Lincoln Electric Company, Cleveland, Ohio, has appointed La Consolidada, S.A., of Mexico, D.F., as Mexican distributors of Lincoln welding products. This Mexican company is one of the largest steel manufacturers in Mexico, and was established in 1900 as a branch of the Isaac Joseph Iron Company of Cincinnati. The present company was established in 1907.



Seeing Is Believing

. . . Has Been True Since the Beginning of Time.

If Display Advertising, Catalogs, Bulletins and Brochures of Oil Country Equipment Manufacturers would let clear, striking photographic reproductions help tell the story of the products featured, how much easier the selling job would be!

Excellent photographs of oil country equipment are inexpensive and are easily obtained. This organization maintains a staff of high class cameramen who have been trained for two years in specializing on Oil Country Equipment.

Write today, listing with us the equipment you manufacture, and where the best installations are located in the South. Members of our staff are making field trips regularly. It will save you time and money to be on our list.

Ask for samples of our work and our prices.

MERCHANT'S PHOTO SERVICE

PHONE PRESTON 2526

415 Louisiana St. Houston, Texas

Squeaks *from the* BULL WHEEL

Mistress: "Mary, I hope you have taken good care of my pets while I have been away."

Mary: "Indeed, I have, ma'am. Only once did I forget to feed the cat."

Mistress: "I hope she didn't suffer."

Mary: "Oh, no, ma'am. She ate the canary and the parrot."

Three friends staying with a farmer were given guns and three dogs for a day's shooting. After a few hours one of them returned. Said the farmer: "Had a good morning? I suppose you have come back for more ammunition?"

"No," he answered, "I've come back for some more dogs."

Sam says that not long ago he stopped in the antique shop and sat in one of those badly worn horse hair sofas, and now he understands why grandma wore five petticoats.

A meek little man was walking home from the funeral of his big masterful wife. Suddenly a roofing pile fell and struck him on the head.

"Gosh," said he, "Sarah has arrived already."

Ted: 'My feet burn like the dickens; do you think a mustard bath would help?"

Ned: "Sure! There's nothing better than mustard for hot dogs!"

"How are you getting on keeping bees?"

"Very well. We have not had much honey, but the bees have stung my mother-in-law several times."

Little Willie, cute young prankster,
Shot his father, playing gangster.
Said his mother, in fits of giggling,
"The other barrel, he's still wiggling!"

"Rastus, I am sorry to hear that you have buried your wife."

"Yas Suh, boss, I just had to—she was daid."

"Hello, is this the Better Business Bureau?"

"Yes."

"Well, how'd you like to come down and make ours a little better?"

"There is direct and indirect taxation. Give me an example of indirect taxation."

"The dog tax, sir."

"How is that?"

"The dog does not have to pay it."

Rastus—Ah's sure advanced in de pas' couple ob years.

Mose—How's dat?

Rastus—Well, two years ago, Ah was called a lazy loafer, and now Ah's listed as an unfortunate victim ob de unemployment sitcheeyashun.—*Life*.

A young man applied for a job in Jersey City. The manager asked him if he had ever had an illness or an accident.

"No," was the reply.

"But how did you manage to get so lame in your right leg?"

"Oh, I was working on a farm, and a bull tossed me over a hedge. I was in a hospital for six months."

"Don't you call that an accident?" asked the manager in surprise.

"Great heavens, no; the bull meant what he did."

First Waitress: "Conditions must be improving!"

Second Waitress: "What makes you think so?"

First Waitress: "I found a couple of 'upward' business charts on the tablecloths today."

A state health officer in Virginia relates in The Survey the story of a farmer who was delivering vegetables to a public sanitarium. A patient saluted him.

"You're a farmer, ain't yuh?"

The farmer allowed that he was.

"I used to be a farmer once," said the guest of the state.

"Did yuh?"

"Yes. Say, stranger, did yuh ever try bein' crazy?"

The farmer never had, and started to move on.

"Well, you oughta try it," was the ex-farmer's parting shot. "It beats farmin' all hollow."

"Which of your works of fiction do you consider the best?"

Author—My last income tax declaration.

"I had a fearful quarrel with Smith, and would have punched his head if I had not been held off."

"Who held you off?"

"Smith."

"Have you noticed any signs of better business?"

"Yes, the people who couldn't pay their bills are starting to promise."

Give a sentence with the word "judicious."

"Vell, ham is not one of the judicious."

Burglars broke into my house last night.

Yes? What happened?

They searched through every room, then left a $5 bill on my bureau.

A man was buying a suitcase but none of those shown pleased him at all.

"When I buy a bag," he declared, "I like to see some cowhide in it."

"Oh," said the merchant, "you should want tricks. Am I a magician yet?"

"What caused you to beat that guy up?"

"He insulted my girl."

"Why, all he said was that she danced like a zephyr."

"My mistake! I thought he said 'heifer.'"

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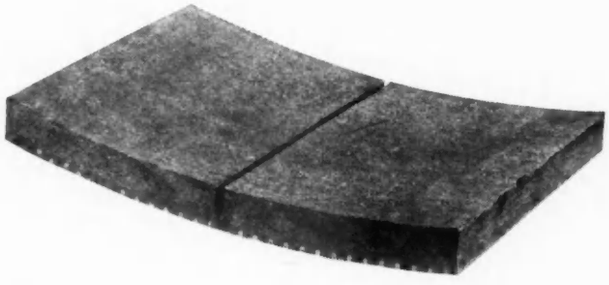

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